

AMERICAN VETERINARY REVIEW

EDITED BY

Prof. A. LIAUTARD, M.D., V.M.,

Member Central Society of Veterinary Medicine (Paris). Honorary Fellow Royal College of Veterinary Surgeons (England). Foreign Corresponding Member Academy of Medicine, Bruxelles (Belgique).

AND

Prof. ROBERT W. ELLIS, D.V.S.

WM. HERBERT LOWE, D. V. S., Associate Editor.

WITH THE COLLABORATION OF

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JOHN P. O'LEARY, V. M. D., Bureau of Animal Industry, Buffalo, N. Y.

And several others.

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AMERICAN VETERINARY REVIEW.

FEBRUARY, 1909.

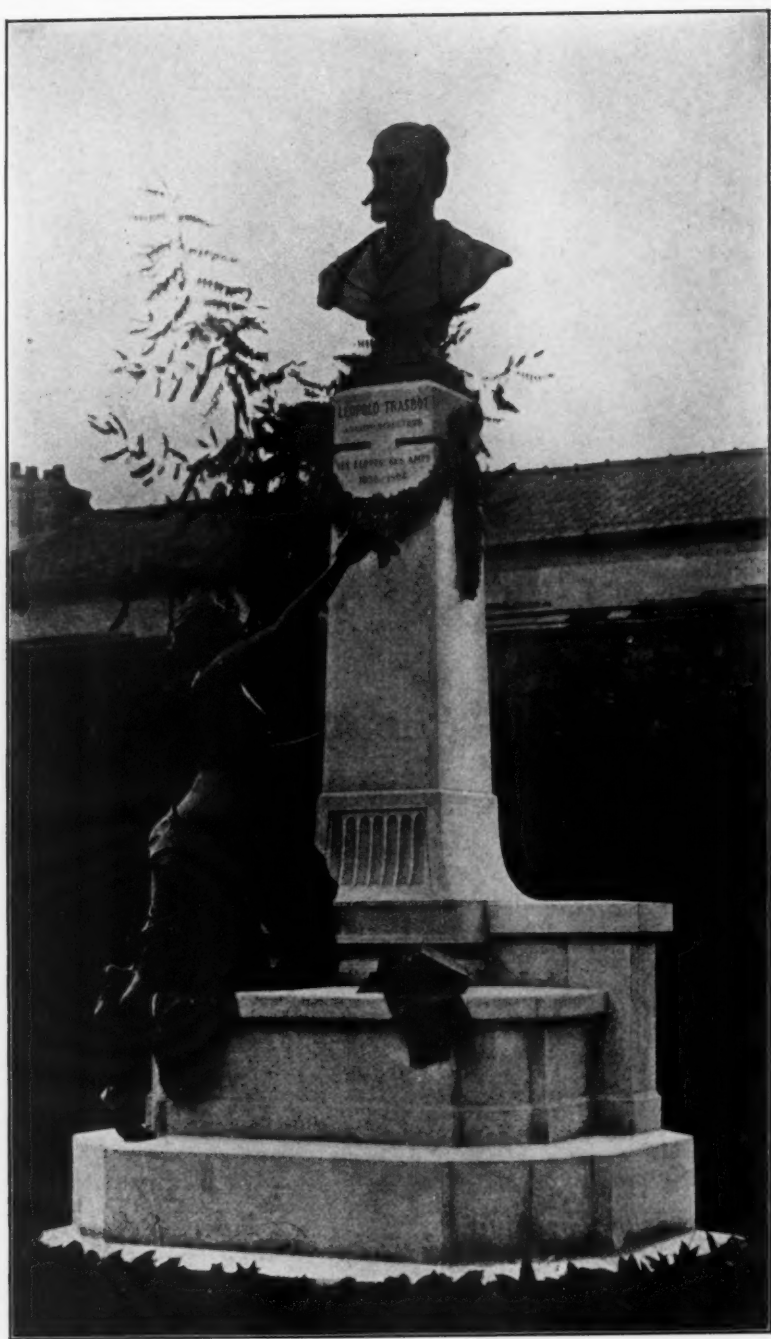
EDITORIAL.

EUROPEAN CHRONICLES.

PARIS, Décembre 15, 1908.

TRASBOT'S MONUMENT.—It is a very old custom in every part of the world to raise monuments to the memory of men who during their life had become celebrated in the pursuits of their labors and have made their career remarkable. Great conquerors, greater politicians (?), great captains, explorers, scientific men, physicians, and others have had their monuments. More recently, veterinarians have entered into the race. A few years ago we have had the great unveiling of Nocard's, next year we will have that of Prof. Thomassen at Utrecht, and a while ago I went to that of the late Honorary Director Leopold Trasbot who for many years occupied the chair of Theory and Practice at Alfort and had obtained a well deserved reputation as a teacher, a diagnostician and a pathologist. Crowding of material and limited space did not allow me to speak of this before, as I intended to do.

The monument raised to Trasbot, of which I send a photograph, was inaugurated on the day of the annual meeting of the Societe Centrale when are distributed to the winners, the prizes offered by the Society for the best scientific papers presented to it. The day of the inauguration was splendid and those among our American friends who have visited the Alfort school and promenaded in its handsome park can realize how



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perfect the ceremony must have been with the many, many relations, friends, confreres and students who had all come to pay their duty to one who they had known and whose work they had learned to appreciate. Many good speeches were delivered. The monument is very handsome, but simple. The resemblance of the bust is excellent. The epitaph, his name only; every thing is without pretention, and in accordance with the character of the good man that Trasbot was. He was of rather retired and bashful disposition.

* * *

INTRA-DERMO REACTION.—Those among our readers who have attended the Congress of Tuberculosis last October, have heard the paper that was presented in the name of Prof. Moussu, relating to a new method to obtain the tuberculin reaction, which a human physician, Dr. Mantoux, had applied in his practice on tuberculous patients and that after him and as a control, the learned professor of Alfort experimented with. Intra-Dermo reaction is the method I refer to. For the benefit of those who may not have been in Washington, permit me to relate the facts concisely. The test consists in the injection through the thickness of the dermis from 1-10 to 1-5 of a cubic centimeter of brute tuberculin diluted to 1-10 in physiologic or distilled water, or in other words from 1 to 2 centigrammes of tuberculin according to size and weight of the animal. In bovines, the injection is made in the thickness of one of the sub-caudal folds and in forty-eight hours is followed by the apparition of a circular cedematous swelling, which doubles, triples or quadruples the normal thickness of the sub-caudal fold. This local reaction does not give rise to any general thermic manifestations, does not disturb the general health and has very little if any influence on the secretion of milk. The reaction begins about 24 hours after the injection, is at its acme in 48 and starts to pass off from the third to the fourth day. Always absent when applied on healthy animals, it is on the contrary positive when resorted in any species of animals suffering with tuberculosis, bovines, cap-

rines of porcines. In those last the injection is made on the base of the ear. For pigs the intra-dermo reaction is the best test to use, as so far all the other methods used have proved of no real practical value.

To resume, this new method possesses all the advantages of the sub-cutaneous test without having its numerous objections (immobilization of the subjects, repeated takings of the temperature, loss of milk, etc., etc.,) and besides it does not expose to errors similar to those observed in the other modes of diagnosis.

* * *

VALUE OF TUBERCULIN REACTIONS.—Let us now resume how the veterinarian is armed to make out a positive diagnosis when in presence of an animal which presents nothing or perhaps only a very doubtful suspicious aspect.

The sub-cutaneous injection, already old and classical method, which, notwithstanding its proofs is, we understand, threatened in its application. Then the cuti-reaction of Vallée, the oculo-reaction of Wolff-Eisner, the dermo reaction of Lignières, the intra-dermo reaction of Moussu, without saying anything of those which might find their indications such as the rhino, the vaginal, the rectal, as long as local reaction to tuberculin is not special to the skin only, but that all mucous membranes are liable to produce it. And now with all that, let us extract from what Vallée has said lately at the Societe Centrale and which seems to resume the whole question.

"What is the diagnostic value of the various methods known?" Practically it seems beyond doubt that as far as cattle are concerned, any positive local reaction, cutaneous or mucous, is a sure sign of tuberculosis. With actinomycosis, tuberculin gives only aborted reaction.

It is positively established that if a positive reaction implies the presence of tuberculosis, with many tuberculous animals, cuti and oculo reactions have failed. With the dermo test of Lignières, 5 animals out of 18 have failed to give Vallée any re-

action, although they reacted with the sub-cutaneous classical method. With the intra-dermo process, out of 7 tuberculous bovines, 4 gave local reactions absolutely positive and far superior to those obtained with cuti or oculo reaction, 7 gave less important reaction, 2 gave a swelling scarcely noticeable, while 2 others free from tuberculosis had a reaction extremely suspicious.

* * *

CONCLUSIONS.—“The various methods to obtain local reactions cannot be substituted in place of the classical method of the sub-cutaneous injection, the value of which is no longer disputed. They may be used in exceptional circumstances, but not alone, only in association; oculo reaction with the cuti or the intra-dermo method. But then any doubtful or negative local result must be followed by the classical sub-cutaneous.”

This is very well but what of the law of the legislature of New York State which I heard forbids it and that of Louisiana which I have just found in a daily here: “By Commercial Cable: New Orleans, Saturday.—This city has won its long war against the use of the destructive tuberculin serum. The health board announces the abandonment of the test.”—Is that true?

* * *

RABIES IMMUNIZATION.—The name of Dr. P. Remlinger is ever coming to the front when the subject of Rabies is spoken of, and every day, communications come from him in relation to it. Many have been his researches on vaccination and immunization. Those that he made against rabies in sheep, his attempts with the use of his mixture of anti-rabid serum and fixed virus, his experiments with intravenous inoculation are all well known. Some time ago, he related his observations on the anti-rabid vaccination by peritoneal injections, where it is stated that rabid virus is rapidly destroyed when injected in the peritoneum and that not only no animal dies from such injection but acquires a solid and lasting immunity and where he concluded that to the practical point of view of animal vaccination,

the brutal intra-peritoneal inoculation of the brain of a dead rabid rabbit might prove a very simple method, however it yet demands further inquiries.

Continuing on the same question of vaccination, against rabies in horses, another communication was made by Dr. Remlinger, which has also a great importance. It relates to the use of a mixture of rabid virus and anti-rabid serum which he had the occasion to test with four horses. Two of these had been bitten by animals which were positively rabid. For the other two, there was only very strong suspicion of their being so affected. Described in detail in the communication made before the Societe Centrale, it is shown that it is no longer by intravenous or intra-peritoneal injections, but simply by sub-cutaneous made in the flank that those horses were treated. On the first horse, treatment was begun on the sixth day after being bitten. He received successively 200, 300, and then 200 cubic centimeters, altogether 700 c. c. of the mixture of anti-rabid serum and centesimal emulsion of fixed virus, with a slight excess of virus. Kept at rest and away from any exposure for 5 or 6 weeks, the animal escaped infection. In the second horse, the treatment was begun 10 days after being badly bitten. He received 300 and 300 c. c. of the mixture. Same care and after treatment. Same results. For these two horses there was perfect evidence that the injuries had been inflicted by rabid animals.

On the third horse, five days had elapsed since he had been bitten by a dog which had shown signs of furious rabies. Unfortunately the dog ran away and disappeared. This horse received 700 c. c. of mixture. He escaped rabies. He was treated 18 months ago and is well.

The fourth horse has been bitten by a dog 6 days before. The dog had bitten people, given evidence of furious rabies, has been shot and sent to the rendering factory. The horse received 700 c. c. of the same mixture, in two doses, and one year after was still in good health.

Of course these four cases are exceptional and perhaps not conclusive, but they are worth considering. The treatment is harmless and cases show that it can be started 5 and even 10 days from the day the biting from the rabid animal has taken place.

* * *

OVARIOTOMY IN GOATS.—Castration of female goats, which is said to be gaining ground in Switzerland, has it seems been performed for the first time in Roumania by Prof. Babès and Dr. Oceanu of Bucarest. The analysis of the milk of the castrated animals being made by Dr. Babès before and after the operation.

The success and the effects of the operation were such that other countries where female goats are numerous and used extensively for their milk have also resorted to it.

The operation being made through the flanks by steps similar to those of the old castration of cows. Recovery is said to be complete in eight days. Prof Babès and Oceanu have made known their *modus operandi* some time ago and presented the conclusions derived from the extensive experiments and observations that they have made.

Among the conclusions, the principal are

1. By this operation the peculiar hircinous odor of the milk is removed. Ovariectomy is a much simpler method, less expensive and more rapid to obtain this result than the most careful selection of animals for breeding.
2. The secretion of the milk is increased and lasts much longer. With animals which have been ovariectomized, it has been as long as 13 and 15 months on an average.
3. Fattening and improving in condition of the meat is obtained. The flesh being of superior quality, without bad taste nor characteristic odor.
4. The lacteal production is increased.

5. The physiological constituents of the milk are advantageously modified, by the increase of the quantity of butter, of caseine and phosphoric acid with a reduction in the lactose.

The two veterinarians of Roumania deserve much credit for calling the attention of their confreres and of breeders to those important results.

* * *

BIBLIOGRAPHICAL NOTICES.—Friedberger and Frohner's *Veterinary Pathology* (authorized translation) by Mr. H. Hayes, F. R. C. V. S., with notes on Bacteriology by Prof. R. Tanner Hewlett, M. D., F. R. C. P., etc., edited by John Dunstan, M. R. C. V. S., Professor at the Royal (Dick) Veterinary College, Edinburgh, and sold by W. T. Keener & Co. of Wabash Avenue, Chicago, is before me.

It is a translation of the excellent German work, which was produced in French by Profs. Cadiot and Trasbot and afterwards by Prof. Zuill in the United States in 1895. It is presented now with the authorization from the German authors as the latest, revised and enlarged sixth edition.

The value of the work has been well known for years and it has been considered as one of the best works on Veterinary Pathology, it has been the best text book in veterinary schools and the one with which students had become most familiar. Practitioners have consulted it and not only refreshed their minds but learned by reading it, and there can be no doubt that as the work is to-day brought to modern standard, this new edition will soon find its way in the library of every veterinarian reading English.

There are in every country, where veterinary science is cultivated, special works on internal pathology. Germany, France, Italy, and even the United States have their own and the names of their authors are certainly familiar to all those who are trying to keep themselves posted and follow the progress that veterinary pathology makes; and the works that have been published in those countries have received the scientific appreciation

that they well deserved. But when one comes to be reproduced in several countries, in various languages, no one can refuse to accept it as one of superior value and as such we feel assured that Hayes' translation will receive in America a hearty welcome.

After a preface from Prof. Frohner and one from Mr. Hayes, who presents the book to the public, there is first, a kind of introduction of the metric system, followed by the contents of the book, which is divided in two volumes. Leaving aside the division of infective and non-infective diseases, adopted in the previous translation. We find, in 19 chapters which fill the first volume, diseases of the organs of digestion, of the oesophagus, stomach, liver, peritoneum, spleen, urinary organs, sexual organs, heart and large blood vessels, skin, locomotory organs, trichinosis in swine, measles in domestic animals, Miescher's tubes or Rainey's corpuscles, diseases of the nervous system, of the spinal cord, of its membranes, of the peripheral nerves, neurosis without anatomical basis, and an appendix to diseases of the nervous system.

This first volume covers 731 pages.

In volume No. 2, we have only eight chapters, six of which cover the ground of the entire respiratory apparatus, the seventh treats of chronic constitutional diseases, the eighth of infective or infectious diseases. There are at the end of the volume: An addenda whose perusal will prove of great interest, a few lines on the terms INFECTION and CONTAGIUM by H. Hayes and a very concise but nevertheless excellent preliminary treatise on Bacteriology by Prof. R. Tanner Hewlett of King's College, London.

The material contained in volume No. 2 covers 681 pages.

Both volumes cost only eight dollars net.

* * *

THE MANUEL D'ANATOMIE ET DE DISSECTION DU CHEVAL (*Manual of Anatomy and Dissection of the Horse*) is a new work by Director Gustave Barrier and Prof. Gabriel Petit, both

of the Alfort school. The work is to be composed of two volumes. The first will treat of the function of locomotion and the second of the other apparatuses. The first volume is divided into two fasciculi. The first fasciculus only is out. It treats of Osteology.

The object of the manual is not to take the place of the excellent works existing, but to complete at least that which is classical in all the veterinary schools of the world, this is Chauveau's anatomy as it is called by all. To complete it in giving the students an opportunity to impress better on their minds, by showing *de visu* the points which have been presented to them in the lectures, descriptions which they have heard but which they have not seen. If the classical works are something difficult to appreciate, dry to read and study from, the manual, a guide handsomely illustrated, will allow them as well as the practitioner, to see at a glance by the examination of a plate, things which would demand a long perusal from the classical book.

This first fasciculus is divided into 5 chapters: the skeleton in general, the head, the hyoid apparatus, the trunk and the extremities. In the second chapter, that of the head, we find it divided in two parts, one where the descriptions and illustrations will show that region first as a whole organ, considered under its various faces, with the sinuses and under six different sections, while in the other the specific study of each individual bone of the head is given. The description of the other bones is found in the other chapters. Here again plenty of illustrations.

The peculiarities presented by the manual are essentially important:

1. A general as well as a specific description of each bone, very concise and without unnecessary additional phraseology.
2. Illustrations to which the reader is referred and in which he will find every peculiarity belonging to the description of the bone.

When one will take in consideration that those illustrations, 116 in number, are made from natural specimens, and that they

are possessed of qualities not generally found in similar reproductions as far as neatness, clearness, correctness and artistic work, it will be understood how useful and advantageous this manual will be. Without these plates, it would be incomplete.

No doubt the book will become classical at once, provided the first volume will soon be completed and the second will not be too long in making its appearance.

The editors are Asselin and Houzeau, the Parisian publishing house for veterinary books. They have spared no expense to do justice to the work and yet offer it at the price of three dollars, (15 francs). Although it is written in French, every one, even the one poorly acquainted with the French language, can if he had a slight knowledge of anatomical terms read it and understand the nomenclature of the plates.

Prof. Doctor Th. Kitt of Munich has published a good German work which by authorization has been translated by Dr. W. W. Cadbury, Assistant Demonstrator of Pathology in the University of Pennsylvania, and edited with notes and additional illustrations by Dr. Allen J. Smith, Professor of Pathology in the same university. The work has for title: "*Text Book of Comparative General Pathology*" and is published in America by the firm W. T. Keener & Co. of Chicago.

This is a very good introduction. The book is written specially for veterinary students and practitioners, who have had some difficulty in looking into works on the subject of veterinary (let us say comparative), general pathology, as such works are rare. But as the translators have stated that Kitt's work was practically the only text book in general veterinary pathology published, I may be permitted to say that they ought to have added to their sentence two words "in German." The first volume of Cadeac's Encyclopedia on "*Pathologie générale et Anatomie pathologique générale*" of domestic animals published in 1893 make it that there were at least two text books on this same subject, one in German and one in French. Now there are three!

This little correction was necessary. And once made, what of the American work?

There can be but one answer—It fills a great need. Before it, our students had to consult works on human medicine. For many it was difficult to apply to comparative medicine the information that they could find in a human medical library. This great difficulty is now out of the way and the American writers deserve great credit for their translation, to which they have added notes of their own, which they have made thoroughly up to date and which their publishers have presented in a most neat manner.

After prefaces from the authors, the book is divided into so many headings following the introduction: history of pathology, disposition towards diseases, congenital and inherited diseases, causes of diseases, course and terminations, circulatory disturbances, metabolism, retrograde changes . . . processes of repairs and new formations, functional disturbances. The whole covering 465 pages, with 131 illustrations in the text and four colored plates which are very good and correct. Comparative Pathology general is certainly a valuable addition to the veterinary literature and will prove a great help to students.

* * *

Some twenty-one years ago Mr. William Hunting, F. R. C. V. S., published a little book on Glanders. To-day the English veterinary literature is counting from the same author another work which treats of the same subject up to date, under the title of *Glanders. A Clinical Treatise*.

Yes, it is a clinical treatise, for the great experience of the author and the position that he has held and still holds among the sanitary veterinarians of England, has given him opportunities that few men would ever have, and it is his many years of practical observations, his tellings of the thousands of glanderous horses that he has seen, of the 600 post mortem examinations that he has witnessed, that the book is made up and no one can

expect any thing else but a superior work, one which is bound to remain an authority for years to come and in which the profession will always look for when searching truthful facts and solid information.

To the quality of the contents, the publishers have given a handsome appearance and the book looks more fitted for ornamenting the table of a fashionable office than the shelf of a book case. But if one opens it, he will find in lucid and succinct description of every point connected with glanders, etiology, distribution and prevalence, symptoms, lesions, diagnosis, mal-*le*in, cure and recovery, prevention, legislation—and an appendix on glanders in man.

Three dark plates are found within the text, illustrating farcy and epizootic lymphangitis and at the back there are 14 colored plates of the various lesions met with in glanders. Among these, many, the majority in fact, are perfect and as one who has been familiar with similar, I can safely say that they are as true as nature.

Glanders will no doubt command a great success.

It is published by H. W. Brown, 20 Fulman Road S. W., London.

* * *

CONCISE BIBLIOGRAPHICAL ACKNOWLEDGMENT.—The *Agricultural Journal of the Cape of Good Hope* (No. 3) contains a long article from the director of the veterinary laboratory at Grahamstown, W. Robertson, M. R. C. V. S., on tuberculosis in animals and in its relation to public health, one on the transmissibility of tuberculosis through the vehicle of meat or milk and one on tuberculosis from the meat inspection point of view: (No. 4) gives a summary of the outbreaks of contagious and infectious animal diseases by Chief Veterinarian J. D. Boschwick where it is worth noticing that but 2 cases of epizootic lymphangitis, 2 of glanders and one of tuberculosis only are recorded against 286 of lung sickness, 5 or 6 of sponzietke, 9 of Redwater, 7 of scabies and 6 of anthrax.

THE VADE MECUM OF THE VETERINARIAN: by M. M. Molereau, Porcher and Nicholas is in its third edition, a rather good proof of its qualities. It is a general, concise but complete treatise (in French) on veterinary pharmacology and therapeutique up to date, whose value can be appreciated at a glance on the table of contents, where in the abundance of matters treated, practitioners will find all the information they may desire.

The second part of Vol. I of "ZEITSCHRIFTE FUR WISSENSCHAFTLICHE UND PRAKTISCHE VETERINARMEDICIN" published at the Institute of Dorpat is also at hand. It is a Russian publication, of which I regret to be unable to speak of, as I am sure it deserves.

A. L.

EXAMPLES OF EFFICIENT STATE SANITARY SERVICE.

In the face of the grave menace to the live stock industry in November, by the appearance of foot-and-mouth disease in our midst, the REVIEW in its December issue, expressed congratulations to the live stock interests of the country, in the fact that the principal centres of infection were in two of the states best equipped to effectively deal with the situation, viz.: New York and Pennsylvania, and had unlimited confidence in the manner in which those two great commonwealths would meet and deal with it. In January the REVIEW had the greater pleasure of expressing a realization of its hopes and confidence in the effective work that had been performed and the results that had been realized under the capable direction of those intrusted with the welfare of the live stock of the nation and of the individual states affected.

In the state of New York, Hon. Raymond A. Pearson, Commissioner of Agriculture, was alive to the situation.

At the time of the first outbreak, which occurred in his neighboring state, Pennsylvania, having been informed of the fact that there were reasons to think that infected cattle had gone into Pennsylvania from Buffalo, N. Y., he immediately, as early as November 10, 1908, mustered some of his forces there, who, under his personal direction, were patrolling the suspected district for several days before the outbreak actually occurred in that state. When the disease finally made its appearance, they were there, waiting for it, and quarantine measures were at once promulgated. Five counties in western New York were tied up by a rigid quarantine order issued by the Department of Agriculture of the state of New York, dated November 19, 1908, which was posted in all parts of the five counties on the morning of November 20. On the same day, the federal quarantine took effect on the state line, being a precautionary measure taken by the federal authorities.

The state quarantine of the affected counties was so well carried out that federal quarantine has not served to prevent the movement of any live stock or infected material from the five counties into another state so far as is known, as there was no such movement from any of the five counties to any other part of the state; as the state quarantine order prevented the movement of stock over any public highway within the said counties.

In regard to the cleansing and disinfecting of cars, pens, chutes, etc., the state authorities required it to be done immediately after use throughout the entire state, although no time limit was set by the federal government (except that they be done before leaving the state), so zealous were the state authorities in the work of purifying their own atmosphere of the plague.

Immediately after the appearance of the disease in the state of New York, Commissioner Pearson appointed a number of additional veterinarians, including a few of the Bureau men in order to give the latter, authority to work under the state law; which law, proved sufficient for the emergency, clothing the state veterinarians and the Bureau men with sufficient authority for the enforcement of the law and all necessary meas-

ures, the federal law being without force in any local application. The federal quarantine besides preventing stock from crossing the state line prohibited their movement from other parts of the state which at no time had been infected. This simultaneous application of federal and state laws proved very effectual. Since a period of time several days prior to the outbreak of foot-and-mouth disease in New York state, until early in January, 1909, the commissioner has had practically continuously on the ground where the outbreak occurred, as Special Expert, Prof. James Law of Ithaca, N. Y., whose experience with, and knowledge of foot-and-mouth disease abroad, and during the outbreaks in this country in 1870 and again in New England six years ago, has made his advice in this campaign against the scourge invaluable. Indeed Commissioner Pearson has the highest praise to offer for his entire force of veterinarians; both those regularly employed by the department, and those temporarily appointed in the emergency. The five counties referred to are still under quarantine by the Department of Agriculture.

In Pennsylvania, where the work is in charge of the State Veterinarian, a farmer living near Danville noticed, November 3, that some of his cattle were acting peculiarly. They were slobbering and appeared sick. The next day he sent for Dr. J. Orville Reed, of Danville, who visited the farm November 5, and on investigation found that the symptoms were those of foot-and-mouth disease. He reported the condition to Harrisburg to the State Livestock Sanitary Board and Friday, November 7, Dr. T. Edward Munce went to Danville and confirmed Dr. Reed's suspicion. He reported to Dr. Leonard Pearson in Philadelphia Saturday morning that the disease was probably foot-and-mouth disease. Dr. Pearson went at once to Danville and on investigation was convinced of the seriousness of the condition. The herd and premises were promptly quarantined. In order to verify the diagnosis the disease was transmitted to two apparently healthy animals on the farm. One of these developed a well-marked case of the disease in 48 hours. The other showed it in about four days.

The ten veterinarians employed by the state as meat inspectors were called to Danville Sunday, November 9, and were put to work at once inspecting other farms for the disease. It was found that the first animal that showed symptoms of the disease was a small bull purchased in Buffalo, November 3. Other farmers had purchased animals in Buffalo at the same time and had taken them to different farms in the vicinity of Danville. These farms were all inspected and the same disease was found on seven of them near Danville and on three farms near Milton. Nearly every case was traced to the Buffalo purchase. All these farms were immediately quarantined and at the same time the four counties in the immediate vicinity were placed under quarantine. A circular letter was sent to every registered veterinarian in Pennsylvania warning him of the presence of foot-and-mouth disease and urging the importance of being on the lookout for the disease in his locality. The prevalence of the disease gave rise to an extensive demand and need for information concerning it. Circular No. 15 on Aphthous Fever or Foot-and-Mouth Disease was issued by the State Livestock Sanitary Board from Harrisburg, December 1, 1908. The state authorities, in unison with the federal government, worked heroically in the quarantined counties and the result speaks volumes for those in charge of the campaign.

In his message to the General Assembly of the commonwealth of Pennsylvania issued from the Executive Chamber, Harrisburg, January 5, 1909, Governor Edwin S. Stuart has the following to say relative to the State Livestock Sanitary Board:

"This board, of which the State Veterinarian is the executive officer, includes in its membership the Governor, the Secretary of Agriculture, and the Dairy and Food Commissioner. It is the function of this board to investigate and control the diseases of domestic animals, to assist in the development of animal husbandry, to supervise horse-breeding, to conduct a meat hygiene service, to exercise a system of dairy inspection, and to supervise the sanitation of the sources of milk supply. By keeping vigi-

lant watch over the health of animals, and by guarding them from infectious and other preventable diseases, the investment of \$150,000,000 in farm animals is protected, animal husbandry is encouraged, and the conservation of the fertility of the soil is promoted.

An instance of the recent work of the State Veterinarian is of sufficient public importance to merit special notice. About the first of November, several carloads of cattle infected with apthous fever were shipped to different places in Pennsylvania. Apthous fever is especially dangerous and injurious because of the facility and rapidity with which it spreads. Within a week, nine outbreaks of the disease were found, affecting cattle in fourteen counties. Each of these outbreaks was traced to a separate shipment of cattle from the stockyards at East Buffalo. A single outbreak of foot-and-mouth disease constitutes a grave and difficult problem; nine outbreaks in different localities are enough to tax the utmost resources of the largest and best organized veterinary sanitary service. At a special meeting of the State Livestock Sanitary Board, the State Veterinarian was given authority to take such action as would be necessary to exterminate the disease, and he was authorized to invite the co-operation of the United States Veterinary Service. It was decided that the most prompt and economic method of eradicating the outbreak would be to destroy the infected herds and disinfect the premises, thus effacing all local centres from which contagion might spread. Under the terms of co-operation, one-third of the indemnity, and of the expenses of appraisal, burial and disinfection, is to be paid by Pennsylvania, and the remaining two-thirds by the United States. The work of repressing this dangerous disease has proceeded with the utmost dispatch and thoroughness.

The British government has refused to permit the shipment of cattle to Great Britain from the port of Philadelphia during the existence of the disease in Pennsylvania. Similar prohibitions apply to the ports of New York and Baltimore. The Federal government has forbidden the removal from Pennsylvania

of cattle, sheep, goats, and swine, and undisinfected hay, straw, hides, and wool. These quarantine restrictions cause annoyance and loss, which the State Veterinarian is endeavoring to minimize by the application of the most effective methods for the extermination of this disease.

As it is impossible to anticipate the cost of eradicating this disease, I respectfully recommend that an appropriation be made, sufficient in amount to enable the State Veterinarian to meet the necessary expenditures for emergency work during this crisis."

From the foregoing account of the work done in these two great states the importance of being properly prepared and equipped becomes apparent and should arouse to action any states in which the live stock interests may not be so fortunately safeguarded.

It is therefore earnestly hoped that the present legislative bodies will not be permitted to return to their homes without enacting sanitary service laws in the states that are in need of them.

The great reliance that the Commissioner of Agriculture and the Governor in two of the largest states in the union, places in the veterinary profession under such stress as has been recently experienced, should stimulate its leaders to go confidently before their legislators and tell them the needs in their respective states.

HOW DOGS ARE PAMPERED.—A funny sight often to be seen nowadays is that of a dog sitting on the front seat of a motor car with its eyes completely hidden by a pair of large goggles. This latest fad is the result of overfondness on the part of persons who like to flatter themselves that they are "in society." It certainly looks fashionable, but it would be interesting to know what the poor dog thinks about it. The average dog cannot endure any kind of bandage on his head. Any intelligent dog can be trusted to take care of his own eyes when he is in a motor car. If he finds the rush of air too strong to be comfortable, he either half closes his eyes or turns himself round. The uselessness of this fad therefore at once becomes apparent.—(*Tit-Bits.*)

ORIGINAL ARTICLES.

THE VETERINARIAN AND HIS PATIENTS IN LITERATURE.

BY T. B. ROGERS, D.V.S., WOODBURY, N. J.

Read before the Veterinary Medical Association of New York City, Nov. 4, 1908.

The early history of our profession must be full of interest to all of us; indeed, I cannot conceive a more interesting object of inquiry than to trace step by step its rise from an absolute empiricism to its position of to-day. Unfortunately this is only in small part possible, we must content ourselves with a gleam here and there and putting this patch-work together try to form a mental picture of the object of our desire. Sometimes the root of a word will aid us, thus the word daughter comes from an Aryan word signifying a milkmaid and as far back as we can trace this root we know that cattle were kept for their milk and the inference is that their ailments received attention.

Judging from the subordinate position of women in those ancient times, it is probable that such care as was tendered the sick animal came from woman and that she was the first veterinarian. In the Aryan hymn to the horse Circa, 2000 B. C., notice is taken of the occasional presence of an eighth carpal bone, showing that equine anatomy was then studied.

In the laws of Manu (Circa, 1500 B. C.) it is written "The doctor who mishandles animals shall receive the lowest while he who mistreats mankind shall receive the highest punishment."

At about the same period we have a vivid picture of canine rabies and hydrophobia; the treatment consisted in scarifying and squeezing out the wound, then cauterizing it with boiling butter. The first Grecian poet furnishes us with a picture of an early Aryan migration toward Greece, and it is so interesting that I have quoted it "Their warriors travelled on foot, their women and children in two-wheeled ox carts, herdsmen were following with their kine, four of them, and nine dogs, fleet

of foot, came up behind; two terrible lions seized the roaring bull, who bellowed mightily as they attacked him; the lions rent the great bull's hide, and were devouring his vitals and his black blood while the herdsmen in vain urged on their dogs, for these shrank from biting the lions, but stood hard by and barked (*Iliad*, 1000 B. C.) "I should like a picture of this scene, the arid steppe, the Greek-faced sun-blackened travellers, the wolfish half domesticated dogs, with ruffled hair and red-mouthed, barking a half-hearted defiance, the cattle growing red-eyed with the smell of blood and threatening to stampede.

Vultures swing in from the brazen sky in ever narrowing circles, and when the lions have eaten their fill and walked off unmolested by man or dog they will fight over the carcass. It is a picture worth painting, for from the loins of these men and their brothers shall come the culture of Greece. Demosthenes, the orator; Plato, the philosopher, the painter and the sculptor, Hippocrates (B. C. 460-377) noted the condition when the antero external angle of the ilium slipped through the fascia lata in lean cattle, producing apparent hip-joint dislocation; he was the author of many medical aphorisms that have been preserved to this day, notably "when a patient has a good appetite but does not improve thereby it is a bad symptom." Aristotle did much dissection and was the father of comparative anatomy, he noticed measles of swine, tetanus and many other diseases of the horse and glanders of the ass. Xenophon (349-259 B. C.) has left a useful treatise on horsemanship and on the conservation of the hoof (important at this period as shoeing was unknown to the Greeks). Absyrtus, who lived at Brusa in Bithynia was an early Greek veterinarian—his grandsire, Demetrius, also a veterinarian, noted the absence of the gall bladder in the horse. The Romans instituted military veterinary hospitals in the second century of the Christian era. Cato the censor wrote on veterinary medicine. Vegetius (Fourth Cent. A. D.) wrote a somewhat encyclopedic treatise on veterinary medicine and about this time the word veterinarian first appears. Virgil in his *Georgics* writes of plagues among animals.

Under the Roman law, land, horses, oxen and slaves were one kind of property (real) as distinguished from all others (personal), and it would appear that at this time live stock represented and were employed as money. Vegetius (A. D. 550?) has left us a complete treatise on veterinary medicine, he writes of contracted tendons and of horses and mules walking on the front of the hoof. He gives various prescriptions for nourishing the hoofs. These are to be rubbed around the coronets and over the feet; at the wane of the moon the sole and hoof must be trimmed with a paring iron, which allows the heat to escape, cools and refreshes them and makes them the stronger. He leaves us a description of the horses of the Huns "Great crooked head, projecting eyes, small nostrils, broad jaws, and cheek bones, strong and stiff neck, mane hanging to the knees, large ribs, crooked spine, strong bushy tail, strong legs, the lower part of their feet small, and full spreading hoofs, their flanks hollow and bodies angular, no roundness in their quarters or brawny development of their muscles, their stature is rather in length than height, the bones are large, there is a graceful leanness, and their very deformity constitutes their beauty. Their temper and disposition are moderate and prudent and they are patient of wounds (Vegetii Renati Artis Vet.).

Lucretius (99 B. C.) approaches the atomic theory with great distinctness: "The first beginnings, the atoms, are indestructible, and into them all things are to be resolved at last." "Bodies are partly atoms and partly combinations of atoms." His vaguely grand conception of the atoms falling eternally through space suggested the nebular hypothesis to Kant" (Tyn-dall, Belfast address).

Shoeing was unknown to the early Greeks and Romans; the Druids were the first horse shoers, and if we wish to realize how much shoeing means to the horse and to the cavalryman we have but to read ancient history and note how the cavalry failed to follow up their initial advantages and how their usefulness was diminished with the length of the campaign, their sore-footed horses could not compete with the infantry on their long

forced marches and soon they became an impediment rather than advantage. Shoes of these early periods are small, narrow and light metalled, having six nail holes countersunk somewhat to accommodate the large nail heads. The evident absence of a horn on the early anvil causes an irregularity of contour, the shoes bulging at the nail holes, and I have been struck with the resemblance of these early shoes to those made by students at the Veterinary Department University of Pennsylvania when practical farriery was part of the course. Later we get evidences of a toe clip and calkins, and many of these old shoes closely resemble the modern shoe, the addition of two nail holes may not be an improvement. Every craft in those old days had its patron saint, and the good genius of the farrier was St. Eloy.

Chaucer in the "Friar's Tale" reads "That was well twight (pulled) my own Liard boy; I pray God save thy body and St. Eloy." The saint worked many miracles among diseased animals.

Some years ago a very interesting mural painting was discovered under a coat of whitewash on a church wall in Highworth, Wiltshire, England. It shows St. Eloy at his forge, a shoeing hammer in his hand, around him hang shoes with clumsy calkins having only four nail holes in each shoe. The saint wears a Bishop's mitre and has fiery red hair—at the foot of the picture is seen the devil fleeing from the good man (Fleming Horse Shoeing).

In very early Welsh laws it is ordained that there are three *one-footed* animals, a horse, a hawk and a greyhound; whosoever shall break the leg of any one of them shall pay his full worth. "The farrier was an important personage in this age; he was entitled to drink from the first vessel brought into the hall, and his seat in the palace was on the end of the bench near the priest of the household; he was entitled to the heads of the cattle slaughtered at the palace, and also to their feet"—"the fire of a hamlet smithy shall be nine paces from the hamlet and shall have a covering of broom or sod thereon."

In the sixth century Saint Benedict, good man, was tempted of the devil in the form of a mulo-medicinus (a veterinarian).

Now, we can stand a good deal but this is the limit and while I do not desire to question the veracity of the holy man I fear that he made the statement after tarrying too long over his cervisiam, but whether, or no, the stream of calumny was started, increasing with its flow, and insinuations that members of the profession have been missed leaving only a strong smell of brimstone in their bed chambers; or that they were transformed after death into gray mules must be suffered in silence.

Charlemagne's expedition against the Huns in A. D. 791 was embarrassed by a pestilence among his horses nine-tenths of them dying and in his age veterinary surgery was practised by women.

In 1598 the "Dispensatory" of Valerius Cordus (German) enumerates wolf liver, fox lung, the spine of the deer, the inner membrane of the chicken's stomach (ingluvium) gall stones of the ox, and last but not least adeps humanis, in its materia medica.

"One of the common ingredients of Roman love philters was the "Hippomane." Pliny states that a brazen mare, in the casting of which Hippomane had been incorporated, caused stallions brought in its vicinity to be transported with passion." Pliny further says that the Hippomane was a fleshy protuberance found on the forehead of the newly born colt, which is swallowed before the colt is allowed to suckle (probably part of afterbirth eaten by the mare). (Peters' Hist. of Ancient Pharmacy).

Among the ingredients of the "Diasaterion" of the Cordic Dispensatory of 1546 are the testicles of the fox, showing that the Brown Sequard idea is not a thing of yesterday.

"The Hohenstauffen Emperor Fred. II. about 1220 A. D. wrote an elaborate treatise on falconry showing a profound acquaintance with avian anatomy, he also aided Jordanus Refus, his chief of stud, in the composition of a treatise on veterinary surgery." In his reign an edict was given forth prohibiting the sale of diseased meat (Fort. Med. Econ. in Middle Ages).

"Bishop Theodoric (Circa, 1262) wrote on equine diseases and the manuscript is still extant" (Ibid.).

"An Italian library possesses in manuscript a translation by Magister Moyses of Palermo of a suppositious work of Hippocrates on diseases of horses (Ibid.).

The age of chivalry gave a great impetus to everything pertaining to the horse and many of the curious words used in our art are to be traced to this time. In the thirteenth century the King of Aragon in appointing a *maréchal* (farrier) ordained "which *maréchal* shall be near our person when we journey, furnished with nails and shoes and other necessities" and in the next century is found an ordinance prescribing his attention at morning and evening stables.

In London during the reign of Edward I. the price prescribed for shoeing was—common shoes six cents; for a war horse twelve cents, for removing a shoe two cents. Many superstitions center around the horse shoe. The Dames D'Espagne of Amsterdam placed shoes over their thresholds whether as amulets or advertisements, the chronicler does not state. Butler in his "Hudibras" says:

"Chase evil spirits away by dint of cickle, horse shoe, hollow flint."

Another curious belief was that certain herbs had the power to draw the shoes from horses' feet and in the sixteenth century Du Bartas blames the moon wort for drawing shoes.

"And horse, that feeding on the grassy hills,
Tread upon moon wort with their hollow heeles,
Though lately shod, at night go barefoot home
Their master musing where their shoes become.
O moon wort! tell us where thou hid'st the smith
Hammer and pincers thou unshoo'st them with.

Si'th the best farrier cannot set a shoo
So sure, but thou (so shortly) canst undoo."

Chaucer is not prolific in veterinary allusions, he mentions the trot, amble and pace of the horse showing that side-wheelers were in demand for saddle purposes in his time. In the prologue to the *Canterbury Tales* he tells us that the Prioress Madam Eglentyne swore by the patron saint of farriers St. Eloy and in the prologue to the tale of the Pardoner (an errant priest selling pardons or indulgences) we are told that he has a shoulder bone from a holy Jewish sheep and if the bone be washed in the water of any well it will heal cow, calf, sheep or ox that drinks the water, laying special stress on the healing of sheep that are afflicted with pox or scab, he further states that if the farmer will drink of this water before cock crow his beasts and store shall multiply. We learn also that in this age horses' bridles were hung with bells (Born 1328).

Shakespeare like Chaucer does not seem to have been a horseman, his allusions to matters equine seem to be those of a city-bred dramatist, rather than what would be expected of a man born and raised in the pleasant Warwickshire meadows.

In the "Taming of the Shrew" Petruchio comes to woo Katherine "in a new hat and an old jerkin, a pair of breeches thrice turned, a pair of boots that have been candle cases, one buckled one laced. His horse hipped with an old mothly saddle and stirrups of no kindred, besides possessed with the glanders and like to mose in the chine, troubled with lampass, infected with the fashions, full of wind galls, sped with spavins, raied with the yellows, past cure of the fives, stark spoiled with the staggers begnawn with the bots, swayed in the back and shoulder shotten, near-legged before, and with a half checked bit and a head stall of sheep's leather, which being restrained to keep him from stumbling hath been often burst and now repaired with knots, one girth, six times pieced, and a woman's crupper of velure which hath two letters of her name fairly set down with studs, and here and there pieced with pack thread (*Taming of the Shrew Act III.*). In *Measure for Measure* it is asked "Does your lordship intend to geld and spay all the youth of the country?"

In Venus and Adonis we have the following exquisite picture of a horse:

Look! when a painter would surpass the life,
In limning out a well proportioned steed,
His art with nature's workmanship at strife
As if the dead the living should exceed
So did this horse exceed a common one
In shape, in courage, color, pace and bone.

Round hoofed, short jointed, fetlocks shag and long
Broad breast, full eye, small head and nostril wide,
High crest, short ears, straight legs and passing strong,
Thin mane, thick tail, broad buttock, tender hide.
Look! what a horse should have he did not lack
Save a proud rider on so brave a back.

Until a comparatively recent period in England if a horse or other domesticated animal was the cause of death or bodily injury to a person, the animal was forfeit to the ecclesiastical courts and was termed a "Deodand," a gift to God; it was supposed to be sold and the proceeds distributed to the poor as alms. A similar custom was prevalent in Mosaic times for it was ordained that "if an ox gored a man that he died, the ox should be stoned to death and the flesh should not be eaten." I have somewhere read of the trial and conviction of an animal (I think a bear) for murder, but I cannot at this writing lay my hand on the authority. These customs have probably an early origin going back to the time when the difference between man and his little brother the animal was less than it is now; African folklore stories, and such ancient romances as that of Reynard the Fox, show that to early man the animal was regarded as simply lower than the man, not essentially different from him. In a footnote to an old edition of Pepys Diary—Pepys you will remember was Secretary to the Admiralty in the reign of Charles II., and was on terms of friendship with Admiral Penn and his son William—I find an early notice of traumatic peri-

carditis of cattle. The Scotch peasants finding sharp pieces of flint in the hearts of some of their cattle, believed that they were shot there by the elves or fairies and termed such beasts "elf shotten."

In Ben Johnson's Bartholomew Fair, first staged about 1614, we find two interesting allusions to our patients, thus: "Knockem, How now, my galloway nag, the staggers, give him a slit in the forehead, a needle and thread to stitch up his ears, I'd cure him now an I had it, with a little butter and garlic, long pepper and grains" (probably grains of paradise) "Where's my horn? I'll give him a mash presently shall take away the dizzyness." Again: My delicate dark chestnut with fine lean head, large forehead, round eyes, even mouth, sharp ears, long neck, thin crest, close withers, plain back, deep sides, short fillets and full flanks, with a round belly, a plump buttock, large thighs, knit knees, straight legs, short pasterns, smooth hoofs, and short heels." Another allusion from this period, I think from Beaumont & Fletcher but am trusting my memory: Who will our palfreys slick with wisps of straw, and in their manger put them oats enough and never grease their teeth with candle snuff." A note states that thievish 'ostlers thus greased the teeth to get paid for feed the animal did not eat through nausea.

Coming down more nearly to our own times we may find scattered throughout the novels of the nineteenth century many allusions to our art, thus, in Scott's Rob Roy we find Diana Verno saying to Frank Obaldistone, "and you cannot shoe a horse or cut his mane or tail, 'or worm a dog or crop his ears or cut his dew claws,"' and again "Never to have heard of Markham the most celebrated author on farriery then I fear you are a stranger to the more modern names of Gibson and Bartlett." I suppose you can neither give a ball nor a mash nor a horn. In the Bride of Lammermoor Bucklaw recommends the application of a freshly flayed toad to a ring bone. In Middlemarch we have the picture of the oblique-eyed Horrocks, M. R. C. V. S., riding with Fred Vincy to the fair, and while Hor-

rocks evidently meant to get his commission coming and going and was not in business for his health, I always regretted that he rode out of the story in one chapter leaving behind him a strong mingled odor of British brandy and James' blister, while the somewhat weak-kneed medical hero Dr. Lydgate meanders on to the end, dying in the odor of professional sanctity.

The worst thing that Carlyle can say of Marat, that arch devil of the French Revolution, is, not that he made the gutters of Paris run crimson with the best blood of France, not that he was a pusillanimous enemy and a luke warm friend but that he was at one period of his career a "dog doctor."

In Harry Hicover's "Stable Talk and Table Talk," a collection of English Sporting Essays (Circa, 1840), we are introduced to Timothy Turnemback, V. S., the veterinarian at Nickems' Equine Repository. Timothy scalds them when Nickem says scald, and passes them when that high-minded gentleman says pass. Some of us have met both Timothy and Nickem. The sporting novels, "Mr. Sponge's Sporting Tour" and "Mr. Romford's Hounds," furnish a few slurring allusions to our profession, and I must own that only once in my varied reading have I found a favorable allusion to our craft and that was in a French novel, I think by Du Boisgobey. Here a little wandering musician accumulates enough money to buy a cow and goes fearfully into the presence of a big French veterinarian with the request that he select one for him. The kindly, rough doctor picks him out a good one, without money or price for his services and sends him on his way rejoicing. This is French, they manage things better in France.

In those voracious chronicles the Ingoldsby Legends we learn that the Baron of Shurland, being told by a witch that his good steed, Grey Dolphin, having just saved his master's life, should yet be the means of his losing it.

"He turned and gazed at Dolphin with the scrutinizing eye of a veterinary surgeon. 'I'll be shot if he's not groggy,' said the Baron. 'It would never do to go to the wars on a rickety

prad.' He dropped the rein, drew forth his good sword, Tickle-toby, and as Dolphin, good, easy horse, stretched out his ewe neck to the herbage, struck off his head at a single blow." Returning years after from the crusades he saw a horse's skull lying on the beach, and, kicking it out of the way, one of the teeth stuck in his toe owing to the unmended condition of his brogans. Blood poisoning set in and the Baron slept with his fathers.

Lastly, "Mr. Dooley," the philosopher of the Archey Road takes a shy at our profession in his essay on "Dr. Hickenlooper and Goold Bonds, the cat presented to McKinley by J. Pierpont Morgan. As I remember it, the cat has a fit in the coal cellar and is rescued thence and restored to health by Dr. Hickenlooper; the gratitude of the President being evinced in the appointment of the doctor to a command in the army of occupation in Cuba.

Now, these opinions regarding our profession from the blessed St. Benedict to "Mr. Dooley" are not flattering and we shall do well to pause and ask ourselves why, through many generations, we have been a shaking of the head and a byword among the nations? Why do we not receive the same consideration that is accorded our sister profession of human medicine? (I have certainly shown you that wherever a writer has touched on our specialty that it has been contemptuously treated; George Eliot's pictures of English provincial life are true pictures and I must accept Mr. Horrock's with the rest of them.)

I'll tell you why! We don't organize and we too often know but our own profession. Why, out of all the members of our societies, do we have so few at our meetings? Too many men settle down in a country town, build up a Chinese wall of low prices around themselves and ask but to be let alone. I have known such men refuse consultation with reputable members of their profession when a consultation was requested by their clients. A few years of this kind of isolation works wonders; the instruments rust in the case, the pharmacy becomes, like that of

Shakespeare's apothecary, "a beggarly account of empty boxes, old cakes of roses, all thinly scattered round to make a show." The veterinarian dies from professional dry rot and the "hoss doctor" inhabits the shell, in order to give it a sufficient vitality to keep it from spoiling. Show me a man who attends our meetings regularly and I will show you a man who has the respect of his community, the respect of his profession, a man who is contented with his lot, a man who is doing his work in the world, who is influencing his time and who will, hence, influence all time. There has been too much talk of late years about commercializing the professions, about letting down the ethical bars, and the argument is advanced that a doctor is like a tradesman entitled to all he can get, regardless of means; in the words of Carlyle: "What is my share in the universal swine trough? Whatever I can get without being transported or sent to the hulks." "What is porcine bliss? Attainability of hog wash." Do you want your hog wash on these terms? There can be only one answer—You don't. Gentlemen, you can't commercialize your profession, after the process has gone so far it ceases to be a profession. Hear what one of the great Englishmen of the nineteenth century, John Ruskin, has to say on the subject: "So of doctors. They like fees no doubt—ought to like them; yet if they are brave and well educated the entire object of their lives is not fees. They on the whole desire to cure the sick; and, if they are good doctors, and the choice were fairly put to them would rather cure their patient and lose their fee than kill him and get it. And so with all other brave and rightly trained men; their work is first, their fees second. But in every nation, as I said, there are a vast class who are ill-educated, cowardly and more or less stupid, and with these people, just as certainly, the fee is first and the work second, and this is no small distinction in a man; distinction between life and death in him, between heaven and hell for him." "If your work is first with you and your fee second, work is your master, and the lord of work who is God. But if your fee is first with you, and your

work second, fee is your master, and the lord of fee who is the devil; and not only the devil, but the lowest of devils—the least erected fiend that fell.” One of the most beautiful northern myths relates that when the gods grew old they sought the goodess Iduna, and that she gave them of her store of apples, that they might, eating, renew their youth. So let us, worn by the heat of the busy day, seek the goddess Minerva, she of wisdom, and in the golden apple of some good old book find rest and succor by the way.

NOT A VETERINARIAN.—A well-known physician was invited out to the country for some shooting, but, although he tried several times, he could not hit a single rabbit.

“I’m very unlucky,” he exclaimed; “I’ve killed nothing all day.”

“Never mind,” said his host; “write the rabbits one of your prescriptions!”—(*Life.*)

VALUE OF HORSES IN THE UNITED STATES.—With the steam railroad, the electric car, the bicycle and the automobile, each in its turn heralded as the forerunner of the horseless age, horse breeding is still the greatest branch of the live stock industry of the United States. The twenty-three million horses reported by the government statistician on January 1, 1908, had a value of \$2,148,430,000, while cattle were appraised at \$1,496,000,000, hogs at \$339,000,000 and sheep at \$211,736,000. Horses thus have a greater value, by more than \$100,000,000, than all other classes of live stock combined. It is interesting to note that in numbers and in value they have made their greatest gains during the years of the development of the automobile. And the gain in value has been greater by far than the gain in numbers. In 1898 horses were appraised at \$34.27 per head, while the average price in 1908 was 93.41, an increase of more than 150 per cent. in ten years. The increase in numbers during this period was something like six hundred thousand annually. Verily, when visions of the horseless age recur it is well to take down “Tama Jim” Wilson’s year book and do a little figuring as to the probable date when the last horse will have gone to the bone-yard.—(*New York Herald.*)

THE TREATMENT OF SUPPURATIVE CONDITIONS IN ANIMALS BY A SLIGHT MODIFICATION OF THE WRIGHT-DOUGLASS VACCINE METHOD.

By E. F. McCampbell and J. McI. Phillips, from the Bacteriological and Pathological Laboratories, Ohio State University.

During the last few years the Wright-Douglass method of bacterial vaccination has been used rather extensively in human medicine, but little use has been made of this procedure in veterinary practice.

It may be well to state in the beginning that there are certain substances in the blood serum which we designate as *opsonins* (Gr.—to prepare food for) and which are distinct and separate from toxins, antitoxins, bactericidal substances, etc., which are also found in some sera. The opsonins are constituents of the normal serum but may be markedly increased on actively immunizing the animal for vaccination.

There are several ways in which the body protects itself against bacterial invasion, but without doubt one of the principal means of defense is through the agency of the phagocytes and the opsonins. This is especially true in suppurative conditions.

The opsonins are substances in the blood serum which act upon the bacteria invading the body, sensitize them, so to speak, and render them susceptible to be ingested by the phagocytes (leucocytes). No leucocyte can take up a bacterium which has not been acted upon by the opsonin of the blood serum. This can be very easily shown by combining washed leucocytes and bacteria and as a result none are taken up by the leucocytes, but when serum (opsonin) is added the bacteria are very rapidly phagocytised. The opsonins are probably produced in the subcutaneous and muscular tissue and are very easily destroyed by heat (56° C.—30 minutes). The opsonins are specific sub-

stances, there being a different one for the various pathogenic bacteria which infect the particular animal.

In human practice it is highly advisable to determine the number of bacteria the phagocytes are taking up in a certain disease condition and compare this to the number taken up by the phagocytes of a normal individual to determine the opsonic index. For example, on applying this to veterinary practice if the leucocytes of a horse with a fistula take up 4 bacteria of the same species as those causing the infection and the leucocytes of a normal horse take up 8 bacteria of the same kind, then the opsonic index of the horse with the fistula is .5. Simon has a method which is said by some to be more accurate than the opsonic index, namely; determining the percentage of bacteria taken up by a definite number of phagocytes (percentage index). By vaccination the opsonins are increased and the leucocytes take up more bacteria. If all the bacteria are removed, a cure is effected.

In order to determine the opsonic index or the percentage index it is necessary to employ washed leucocytes in .85 per cent. sodium chloride solution, blood serum, and a bacterial emulsion. These are combined in a capillary pipette, incubated, smeared on slides, stained and examined. The technique is rather burdensome unless a laboratory is available and we have done away with the determination of the opsonic index in our work on animals, and also simplified the technique of vaccine preparation. We have applied this method both in human and veterinary work with distinct success in especially suppurative conditions.

PREPARATION OF VACCINE-AUTOGENIC.

Clean the field of infection thoroughly with weak bichloride of mercury, alcohol and ether. Express the first pus from the inflammatory tract in order to exclude accidental saprophytic bacteria, and with a sterile platinum needle make a bacterial culture on several agar-agar slope tubes from the deep pus. These cultures presumably contain all the bacteria concerned in the in-

fection. The agar-agar tubes can be easily secured from any proprietary medicine firm and kept on hand ready for use. After the tubes are inoculated they are incubated at 37° C. (98.6° F.) for 24 hours in the incubator. If no regular incubator is at hand the tubes may be incubated very nicely with a small amount of inconvenience if carried in the operator's axilla, being held in position by adhesive tape. After having grown 24 hours the cultures are washed off carefully with sterile .85 per cent. sodium chloride solution, shaken to destroy clumps of bacteria and heated in a water bath at 60° C. (140° F.) for one hour to attenuate the bacteria. We have also used unheated bacteria, but not with as decided success as when they are heated as mentioned above. The bacterial emulsion thus heated is now approximately standardized by dilution with .85 per cent. NaCl to the opacity of the precipitate in the fluid in a test tube containing 1 per cent. sulphuric acid in distilled water and 5 per cent. barium chloride in distilled water (precipitate is barium sulphate). One tube of this kind can be prepared, corked, and kept for all time. The number of the bacteria in such an emulsion vary, but there are approximately 5,000,000 staphylococci per cubic centimetre. The vaccine having been prepared, the next procedure is the inoculation or vaccination of the infected animal. This must be done with a sterile syringe to avoid abscess.

It is essential in this connection to take the size of the animal into consideration and to give very minute doses of the bacterial emulsion, and to not repeat the injection too often.

For example, in a case of a horse with poll evil and fistula of the withers we injected .5 ccm. of emulsion followed every five or six days by slightly increasing doses, up to 1cc.

We have observed this procedure to be of excellent service in fistula. Of the poll and withers and also in suppurative conditions of the hoof, etc. Recovery is extremely rapid. In one case, a large fistula involving the poll and withers, not amenable to surgical treatment, was cured by six injections; another in

five injections, etc. The method is also of use in pyogenic infection of smaller animals.

The principle involved in the whole procedure is the stimulation of the leucocytes to take up the infecting bacteria and this is accomplished by increasing the opsonic substances in the blood by vaccination.

The following cases are illustrative of what can be accomplished by a slight modification of the Wright-Douglass method of vaccination:

Case 1: Brown mare, 7 years old. Infection and suppuration of about one year's duration. Treated by courtesy of Dr. D. H. Udall, Ohio State University Veterinary Hospital. The infection started as a poll-evil in which the pus burrowed backward, passing down the planes of fascia of right side of neck to the axilla. The entire subscapular region was apparently involved with fistulous openings on the neck, withers, and in the axillary space. Numerous fistulous openings were noted along the side of the neck. All the involved region was oedematous and indurated. The case was considered inoperable. This mare received on first injection .5 ccm. of an autogenic vaccine and the dose repeated at intervals of five to six days for a month. The dose was then increased to 1.00 ccm. and two more injections made at six-day intervals. After first and second injections the lesions began to heal and in two months the animal was perfectly well. When observed in one year afterward the animal was still well and healthy.

Case 2: Sorrel mare. Treated by courtesy of Dr. D. S. White, Ohio State University Veterinary Hospital. Fistulous withers, both sides, opened and treated by irrigations of mercury bichloride and no radical operation was performed. Prognosis was unfavorable and owner disposed of animal to anatomical department. Cultures were made and an autogenic vaccine prepared. The animal received on first injection .5 ccm. vaccine and this was repeated four times at six-day intervals. After

first injection wound began to heal and general condition improved and at the end of one month the animal was practically well.

Cases 3-4-5: A litter of eight six weeks' old puppies were exposed to distemper. Ten days later they became very sick. Two died within twenty-four hours. The others soon developed swellings varying in size from that of a small cherry to that of a hickory nut which were apparently situated in the lymph nodes of the neck, axilla and groin. Aspiration of one of these swellings by means of a sterile hyperdermic syringe produced some pus. A culture was made on an agar slope tube from this pus. A very abundant staphylococcus bacterial growth was obtained. Three of the five remaining puppies were given an inoculation of .1—.15 ccm. of this vaccine. One of these three was apparently the most severely infected of the lot. In twenty-four hours, the enlarged lymph nodes of all of these puppies were reduced to half their size. In forty-eight hours the swellings had all disappeared excepting one cervical gland in the most severely infected puppy, which was still the size of a cherry. Three days after the treatment no lymphatic enlargement could be found in any of these puppies. The two controls were very sick, the next day after inoculation had been made in the other puppies. Later we lanced seven large abscesses in one of the controls and four in the other. These puppies stopped growing, their coats became rough, they emaciated rapidly, both developed very extreme anemia, one died three days later. The contrast in the condition of the treated and untreated puppies was remarkable; the treated ones being sleek, fat and thrifty, and the untreated absolutely ceased to grow.

PREPARATION OF VACCINE—AUTOGENIC—CRUDE METHOD.

We then attempted to devise some means which would simplify treatment by means of opsonic vaccines still further, so that the veterinarian with no equipment for bacteriological work might be able to use it in certain selected cases. After some

experiments the following technique was adopted: Curettings and pus from the diseased parts are placed in a mortar, ground as fine as possible with a pestle, diluted with about five times their volume of an .85 per cent. salt solution, and the emulsion thus obtained is strained through an ordinary tea strainer to get rid of the coarser particles. It is then heated three to four hours at 55° C. (131° F.). It is then filtered through the coarsest grade of sterile filter paper, and immediately injected into the patient. All utensils used should be boiled in water, so that other infectious organisms will not be introduced with the vaccine.

The construction of an apparatus for heating the vaccine is very simple. A triangular brass plate about 12 inches long, and 6 inches wide, one-inch thick, is placed upon a tripod, and a Bunsen burner with a flame turned low, is placed under its apex. On the base of the triangle put an ordinary tin cup in which a small wide-mouthed sterile bottle is held in place by a wire support so that it is not in contact with the bottom of the cup. Fill the cup with water until it is one-inch from the top of the bottle. Put some boiled water in the bottle and close with a perforated cork through which a thermometer has been passed, so that the bulb of the thermometer is immersed in the fluid in the bottle.

By adjusting the flame and moving the cup to and from the apex of the triangle a point is easily found at which the contents of the bottle can be held at a constant temperature of 55° C. (131° F.), if the temperature of the room is anything like constant. The bottle is now emptied and the fluid to be heated is placed therein.

The dose of the filtrate for a horse is from 5 cubic centimetres to 10 cubic centimetre, beginning with the smaller amount. We recommend this large dose because the material must be diluted or else it is too viscid to filter and many of the organisms are retained with viscid material on the filter. A marked diminution in the discharge and a rapid improvement in the animal and the local lesion is noted following the injection.

While the results of this method of treatment seem to be brilliant at times, we would much prefer the first method in all cases, because by the present method so much useless extraneous matter and dead tissue is introduced with the dead micro-organisms, and we cannot but feel that there is danger of introducing tetanus and other infections, especially in cases of foot canker. Considering the lack of accuracy in this method, we were surprised at the seemingly good results obtained. The following cases are recorded as illustrative of this.

Every practising veterinarian knows the obstinate character and often almost hopeless prognosis of foot canker.

Case 1: Black stallion, treated by courtesy of Dr. D. H. Udall. When admitted to the Ohio State University Veterinary Hospital, the right hind fetlock was much enlarged with three points of suppuration on it, one just behind, one in front, and the other to the right of and on a level with the fetlock joint. The skin behind the joint was thick, scabby and warty. The animal was operated on for canker under chloroform anaesthesia. The wall of the inner quarter and the region of the inner angle of the sole was removed, and a great proliferation of the villi found. The pododerm was curetted from the bone, and the cherry red cautery applied. The wound did not heal properly, and was soon covered with unhealthy granulations and a small quantity of brownish foul pus. It would apparently improve one day and be worse the next, the ulcer gradually becoming more and more extensive. This condition persisted in spite of any and all treatment that was used. Fourteen weeks after the operation, the following note appears in the case history: "Wound is no better. Hoof loosening at coronary band. Wound covered with extensive unhealthy granulations, and greenish and brownish foul pus." At this time the wound was curetted and the vaccine prepared from the pus and the granulations. This material was heated at 50° C. (122° F.) for one hour, filtered and 5 cubic centimetres of it injected. The injection was followed by extensive inflammation at the site, and

a severe general febrile reaction. The vaccine had been insufficiently heated. A rather large abscess formed at the site of inoculation. In spite of this the wound improved steadily for two weeks, when the granulations again became unhealthy. Another injection of 5 cubic centimetres was given, this time the material was heated to 55° C. (131° F.) for four hours. It was followed by a slight febrile reaction, and a very marked improvement in the condition of the wound. Seven days later another injection was made of material prepared in the same way, but heated three hours at 55° C. (131° F.). Six weeks after beginning this treatment the animal was sent home with the wound practically healed. An ulcer remaining after the discharge of the pus from the abscess at the seat of the first inoculation, was still present, and persisted for several weeks when it gradually healed. The inoculations are best made in the loose tissues of the chest between the forelegs. In case suppuration should occur on account of the defective technique, it is easy to drain an abscess at the point. The thickening above the hoof and the papillomatous dermatitis persisted for several months when they, too, disappeared. The final result was a somewhat thickened fetlock joint, and quite a little contraction with scar tissue which replaced the ulcer in the foot.

Case 2: Bay mare seen by courtesy of Dr. Harry Brown, Columbus, Ohio, who carried on the treatment under our direction. Canker of all four feet of two years' duration was present. Each foot was in about the same condition. The frog was almost gone and an ulcer, almost big enough to conceal half an ordinary sized apple, took its place. From these ulcers there was a constant discharge of foul brownish-green pus. This animal had been treated almost constantly by several different veterinarians, but it had continued to gradually grow worse. After the first injection of 5 cubic centimetres of material prepared as in the preceding case and heated to 55° C. (131° F.) for four hours, the granulations assumed a healthy appearance, and after two other injections at intervals of five days the wounds

were so far healed that no more material could be obtained. Simply by using these injections and washing the feet occasionally with the hose the ulcers were completely healed in about five weeks. The animal was then shod and put to work. Later some contraction of the foot required further treatment.

Case 3: Bay horse, 13 years old; the animal had a fistula of the withers which had been discharging for about three weeks. This was not a very severe case nor was there much swelling or induration about the shoulder, but the opening discharged very freely. The material for the first injection was obtained by aspirating the pus from the fistula through a small metal tube attached to a sterile syringe. This was diluted with 0.85 per cent. salt solution, and prepared as we have already described. Five cubic centimetres was given at the first dose, there was very little local reaction, and practically no general reaction. After five days the discharge had almost ceased. Material for the second injection was obtained by enlarging slightly the fistulous opening and scraping out tissue and pus with the curette. An injection of the material was again made. Two weeks later the fistulous opening had closed. The horse was not seen until one year later, when all evidence of trouble had disappeared. The material for these injections was heated for three hours at 55° C. (131° F.).

IN the police department of the city of New York there are seven hundred and eighty horses, all geldings, of a certain height and weight varying not more than half an inch from 16 hands and weighing from 1,050 to 1,150 pounds. These animals have passed through a rigid mental and physical examination as to soundness and adaptability. Besides complying with the exacting conditions of specifications and of standing a searching examination and test, they had to go through the training school before being admitted to the service. The color line is sharply drawn, for white horses, as well as black ones and yellow ones, are invariably rejected. Bay, and solid bay at that, is the only color that can pass muster and it is useless for females to apply.

STRANGLES.

By J. MARTIN RICE, V. S., BOBCAYGEON, ONTARIO, CANADA.

Read at the Annual Meeting of the Ontario Veterinary Association, December 23, 1908.

Strangles, commonly called by the laity "distemper," is an infective equine disease generally affecting young horses, but may affect horses at any age. The infective agent is a streptococcus, which can be found by coverglass preparations, stained with gentian-violet, methylene blue or by Gram's method. The disease is rarely fatal in the ordinary form.

The streptococcus of strangles is no doubt the more common cause of abscess in the horse, than any other organism, and it is generally understood, both clinically and bacteriologically, that it is a common cause of acute catarrh and other respiratory diseases, with or without pus formation.

The disease presents itself in many forms, affecting the various lymphatic tracts and glands.

When an outbreak commences in the pharyngeal region, it is common for all susceptible animals in the same stable to become affected in a similar location. Certain outbreaks seem to affect some particular part, although in some it may vary a little.

Symptoms in pharyngeal abscess—dyspnea is present owing to the narrowing of the air passage, but will depend upon the size and development of the abscess. The respiration as a rule is roaring.

Sometimes a slight attack develops into a severe one with great rapidity.

In the sub-parotid form, as a rule one side alone is affected, if both sides, then the two abscesses may communicate. The abscess in this situation matures very slowly and an attempt to liberate the pus which lies deep, very often fails, even after several days have elapsed since the swelling commenced.

The danger of wounding the blood-vessels is great and if surgical means are adopted, either Hilton's or Viborg's methods should be preferred, which are similar. Hilton's method is, to incise the skin over the most dependent part and then pass a blunt instrument, if possible, through into the abscess cavity. A pair of closed dressing forceps are now passed into the abscess cavity, opened wide and withdrawn; in this way the opening was dilated. Viberg, after incising the skin, used the finger to force an opening. Very often pus was not found, but was followed by a copious discharge in 24 or 48 hours.

Some incise the skin over the most prominent part, which lessens the resistance and is not a bad plan, the pus flowing out in about 48 hours.

Sometimes the pus did not break out where the skin was incised, but at a higher or lower point.

It is said that the local destruction of tissue for the outlet of pus is not due altogether to pressure from within, but to the action of the ferment or ferments, which are produced by the pus bacteria and which possess the power of dissolving albumen.

Fistula of Stenson's duct sometimes occurs, due to the breaking down of the walls of the ducts by being included in the area of suppuration.

Sometimes these abscesses break into the pharynx and the pus is swallowed or inhaled into the lungs and Pyemic Pneumonia or pulmonary abscesses may result, but these can also be produced by metastasis, in which case they are generally met with in both lungs in the miliary form or one large abscess may exist. These complications may be the result of pyemia. If these lesions are very large, death is the result, but on the other hand if small, recovery may take place with persistent treatment. Sometimes an animal has an ordinary attack of strangles in the submaxillary space, it breaks, discharges and heals. After two or three weeks, sometimes longer, the animal is noticed to have colicky pains; the feces are slimy and hard, appetite poor, very dull and the temperature on the increase.

This is a sign of internal (mesenteric) abscesses. Again, the animal may breathe heavily, pressure upon the sides or turning around sharp produces pain and the temperature and pulse will be found to be increasing; this is a sign of Purulent Pleuritis and as a rule is fatal.

There are several other positions where the abscess sometimes occurs, such as the prepectoral form which as a rule is situated very deep.

The encephalic abscess will cause the patient to walk one-sided, due to pressure upon the brain.

Sometimes the abscess occurs on the scrotum, which gives it the appearance, at first sight, of scrotal hernia.

Cutaneous strangles occur about the face, eyelids, etc., in multiple abscesses, which gives the muzzle a large appearance; in fact the abscess may occur on any part of the body.

The form of strangles for which the purpose of this paper is intended, is the internal form, which has occupied my attention considerably.

The following cases I will describe:

CASE I.—Filly, aged 1 year, abscess in pharyngeal and sub-parotid regions, temperature 105 F., appetite appeared good but deglutition was performed with great difficulty, breathing stertorous.

HISTORY.—Filly had abscess form in submaxillary space, it had burst and healed about two weeks previous. Throat again swelled but this time higher up.

DIAGNOSIS.—Strangles affecting the pharyngeal and sub-parotid regions and probably the guttural pouches; the internal organs were also affected indicated by difficulty in turning around.

PROGNOSIS.—Unfavorable.

TREATMENT.—The usual treatment was given. The animal died three days later.

POSTMORTEM.—Abscess of parotid and pharyngeal regions and guttural pouches. Pharyngeal abscess had broken and en-

tered the trachea and lungs. When the trachea was severed the pus flowed out.

Purulent pleuritis was also present and several pints of pus were found in the pleural cavity.

Pericarditis and pneumonia also existed.

There was an abscess upon the stomach holding about half a pint of creamy pus, also innumerable small abscesses along the lymphatics of the bowels. The animal a few hours before death appeared to be very much better and ate steamed oats, hay and drank water.

Case II.—Mare, aged 8 years, weight about 1,500 pounds, (owner same as No. I), suffered from strangles. The abscess formed in the submaxillary space, burst and healed. The temperature ranged between 101 and 102 F. and appeared to be getting along very well, when suddenly the temperature rose to 105 F.

It was at this time the owner asked me to call and see the animal.

SYMPTOMS.—On my arrival the following symptoms were observed. Heart beats 125 per minute; appetite in abeyance; labored respiration; slight colicky pains and bowels costive; temperature 105.3 F.

DIAGNOSIS.—Pyemic Pneumonia probably with mesenteric abscesses.

TREATMENT.—Raw Linseed Oil, Oil, Rectal injections to stimulate bowels. The oil was repeated but no movement of the bowels resulted. Nux Vomica and other stimulants and diuretics were given. Patient died 2½ days later.

The rope was being put in the mouth for the purpose of raising the head for drenching when she pulled back and dropped dead.

During the 2½ days the pulse ranged between 112 and 135 beats per minute; the temperature dropped to 104 F. just before death, and she also drank milk and appeared much better.

POSTMORTEM.—Solidification of a portion of both lungs with small abscesses. Purulent Peritonitis and multiple mesenteric abscesses, large and small, containing creamy pus.

There was rupture of the stomach, probably due to the fall at the time of death.

Kidneys were very pale.

The two animals both died the same night and only six hours apart, and the postmortems were both performed at the same time and after they were finished the owner said he had seven more suffering from the same disease and wanted me to examine them.

EXAMINATION.—They all had the submaxillary abscess and which were nearly healed; some had fresh abscesses forming. The temperatures ranged between $102\frac{1}{2}$ and 104 F. Their appetites were diminished. The owner had been giving them a heroin mixture which he got made up at the drug store, but they did not improve by it.

TREATMENT.—Sodium Hyposulphite $\mathfrak{J}\text{iv}$, Pot. Nit. $\mathfrak{J}\text{ss}$ three times per day and Calcium Sulphide $\mathfrak{J}\text{iv}$ twice per day for 2 year olds. Two-thirds ($\frac{2}{3}$) these doses for yearlings.

Their throats were blistered with Biniodide of Mercury ointment (1 to 4) and the abscesses were thoroughly disinfected with Creolin solution (1 in 10) containing 2% of Formalin.

There were three more fresh cases in the stable. They all made a good recovery.

Case III.—Colt, 2 years old, suffering from colicky pains, constipated, appetite poor. Submaxillary abscess had formed, burst and healed.

The above is the history of the case as given by the owner.

I informed the owner of the possibility of internal abscesses and that it would very likely prove fatal.

TREATMENT.—Physic drench, Sodium Hyposulphite $\mathfrak{J}\text{ii}$, Pot. Nit. $\mathfrak{J}\text{iii}$, three times per day. (The two last named medicines were given in bulk.)

The owner came back in two weeks' time and asked me to visit the colt because he was not doing very well.

He remarked that the physic acted just right, but was constipated again.

Upon inquiring I learned that he had only given half the medicine in the two weeks, which, had it been given according to directions, would only have lasted four days.

EXAMINATION.—Eyes very pale, condition poor, appetite in abeyance. Rectal examination revealed constriction, due to the pressure of a large abscess.

The colt had not passed dung for two days and the last that was passed had an odor of decaying tissue.

PROGNOSIS.—Unfavorable.

TREATMENT AFTER VISIT.—Purging drench composed of a small dose of aloes and oil was given, also Nux Vomica and rectal injections but they failed to move the bowels. Pilocarpine and Eserine were given which also failed.

Arecoline was tried and this failed also. The colt died two days later.

POSTMORTEM.—An abscess about the size of a large football was found situated in the right pelvic and posterior abdominal region and about fifty mesenteric abscesses varying in size from that of a pea to an egg. The internal organs had a very fetid odor.

Case IV.—Colt, 2 month old, had abscess form in submaxillary space which was lanced three weeks previous to my visit.

For the last three days the bowels had not moved, but this day the colt seemed much better although it had to be helped upon its feet, which they had been doing for over a week and when up walked with its head to one side. (The above are the words quoted by the owner.)

I informed the owner, I did not think it was much use treating it, because it would probably not live long, but he insisted

upon me going out to see it. Upon my arrival at the farm I was informed that the colt had been dead about an hour. Its legs were stretched out as though it had been struggling to get upon its feet.

POSTMORTEM.—Mucous membrane very pale, pus discharging from right ear, forehead was bulged out. Upon incising the forehead a large quantity of pus escaped. The cranial covering was removed and a large quantity of thin watery pus was found in the (cranial) cavity.

The guttural pouches contained a quantity of caseated pus about the size of an egg in each pouch. The posterior portion of bowels was empty; the anterior portion contained feces and linseed oil (the oil was given the night previous). All along the mesenteric lymphatics there were an enormous number of small abscesses about the size of large beans, which contained creamy pus. There was a small rupture at the termination of the pulmonary vein.

REMARKS.—Probably the rupture of the pulmonary vein was caused by the struggling to gain its feet.

Walking to one side was due to pressure upon the brain.

Paleness of the mucous membranes was due to the inferior state of the blood, produced by streptococcic infection.

SUMMARY.—The majority of the cases of mesenteric abscesses are due, no doubt, to the germs being carried by the bloodstream or lymphatic system, to parts where they become lodged in the capillaries, etc. (secondary infection).

If the abscess is allowed to mature well before opening and then thoroughly disinfected with strong creolin solution it would happen less often. In cases where surgical means must be adopted in the early stage, such as when the animal is strangling or cannot drink, the above mentioned methods should be adopted and the opening well cauterized which will prevent the germs from so readily passing into the circulation.

The constipation is no doubt in many cases due to the toxins diminishing peristalsis and in other cases to pressure of the abscesses upon the nerves.

Regarding the action of Sodium Hyposulphite and Calcium Sulphide which in the writer's practice has proved very valuable and may perhaps act in many ways.—First by either destroying or inhibiting the growth of bacteria; second by increasing the phagocytic power of the leucocytes; third by increasing the bacteriolytic power of the blood plasma or all three actions combined.

The Sulphides must be given so as to produce saturation.

TO GRAFT ARTERIES AND VEINS.—The experiments in the replacement of arteries and veins in animals, made in his laboratory by Dr. Carrel, a French surgeon, bid fair to result in knowledge that may save countless human lives. Dr. Carrel has successfully cut out diseased or lacerated sections of arteries and replaced them with healthy tissue. In cases where this could not be done he has made the connection with a piece of vein, and in some instances he has caused an artery to discharge directly into a vein, finding that the circulation will finally adapt itself to this somewhat radical change in direction. He has also succeeded in transplanting entire organs, like the kidneys, from one animal to another. The skill and knowledge in this kind of animal grafting are not, it would seem, yet sufficient to warrant making the attempt on a human being; but the question is merely one of time, and we may expect that at some time in the future the victim of an accident whose arteries have been crushed or lacerated will not be left to perish of gangrene, but will have sections of these vessels replaced with healthy parts from some animal. This will put a crucial question to the anti-vivisectionists.

If a man's life can be saved only by killing an animal, shall this be done? A good many animals have been experimented upon up to the present stage of this method. If the method succeeds thousands of human lives will be saved; is the game worth the candle? The surgeon, at any rate, thinks that there is only one possible answer to this question.—(*Arthur E. Bostwick in New York Herald.*)

OPSONIC THERAPY.

BY DR. R. A. ARCHIBALD, OAKLAND, CAL.

Presented to the 45th Annual Meeting of the American Veterinary Medical Association at Philadelphia, 1908.

In accepting the honor of addressing you on the subject matter of "Opsonic Therapy" I desire to apologize for being unable to submit for your consideration anything of an original character. In fact my only excuse in the premises is a desire to call your attention to a few accepted facts in regard to this new method of treating infectious diseases, with a view of stimulating a discussion that may be the means of inciting some among you to interest themselves sufficiently to try this treatment.

Some four years ago Sir Almoth E. Wright gave to the scientific world his theory that the power to resist the invasion or the power to overcome infectious diseases, was due to the presence of certain agents which he claimed and are now known to exist in the blood serum whose function it is to unite with bacteria and prepare them for the leucocytes to attack and destroy. And upon the quantity of these agents depends the amount of resistance the blood may have against an invading organism. To these agents Wright has given the name of "Opsonins." The word opsonic is derived from a Greek word which we are unable to pronounce but which means "I convert into palatable pabulum."

One of Wright's discoveries was that until invading bacteria are acted upon by the opsonic agents the leucocytes refuse to pay any attention to them, and a second was a technical method by which we are enabled to measure or estimate the quantity of opsonins in the serum of a given blood. And the result of such measurement is expressed and known as the opsonic index. To be more specific, the index represents the rel-

ative amount of opsonins in the serum of a specimen of blood to be tested as compared with the amount in normal blood, or to be more accurate the average number of bacteria ingested under the influence of normal serum.

To illustrate the point, we will assume that we have determined the opsonic index of a tuberculous patient, and found same to be .5, we mean that the blood serum of said patient contains but one-half the normal quantity of opsonic agents which are essential to successfully combat the infection of the tubercle bacillus.

The index is obtained as follows: If the index of normal blood serum is arbitrarily represented as 1, and it is found that leucocytes under its influence each engulf 30 bacteria, the experiment indicates that the tested serum is only one-half normal, hence the opsonic index of the patient from which the tested blood serum was obtained would be .5. If only 10 bacteria were engulfed by each leucocyte, the index would be .3 or one-third normal. Wright's theory of course embodies the principle that if the index is low the economy has not sufficient power to oppose the invading bacteria, but if high, the bacteria fall prey to the leucocytes and the disease aborts under the influence of their destructive activity; consequently, when an infection occurs the relative resistance or relative opsonic power of the blood is lower than normal.

Having determined clinically or bacteriologically that a low opsonic index exists in a certain patient, the main object of a veterinarian or physician is to artificially supply the blood serum of such patient with opsonins and thus facilitate the destructive activity of the leucocytes. His aim is to produce an agent that can be safely introduced into the living body with a view of increasing the opsonic resisting power and thus place the invading microbe at the mercy of the leucocyte. In other words, raise the patient's opsonic index. Wright has produced the solution of this problem by demonstrating the use and efficacy of bacterial vaccines.

The theory of opsonic therapy may be briefly summarized as follows:

1. A pure culture, the causative micro-organism is isolated.
2. Clinical or bacteriological estimation is made of the opsonic power of the patient's blood serum to this micro-organism.
3. A vaccine is prepared and standardized from this micro-organism.
4. The patient is inoculated with this vaccine, with varying doses at indicated intervals, determined by clinical symptoms or bacteriological estimations of the opsonic power of the patient's blood serum.

The principle of bacterial vaccination may be better fixed in our minds by an example or two.

If we have to treat a patient with furunculosis due to an infection by the staphylococcus pyogenes, we will grow the staphylococcus, kill it and inoculate our patient with a proper dose of this dead culture. If our patient has tuberculous glands, we will inoculate him with new tuberculin (bacilli emulsion) which consists of devitalized tubercle bacilli. The principle holds similarly for all bacteria that we can cultivate.

In the use of vaccines the quantity inoculated is of great importance. If too large a dose is administered, there is first a decided lowering of the opsonic resisting power, or a marked negative phase, which, of course, as soon as nature has come to the rescue, is followed by a rise in the opsonic power or positive phase. It is better to start with a minimum dose and avoid as far as possible a marked negative phase or if the production of a negative phase is unavoidable the production of a negative phase unaccompanied by slight if any constitutional disturbances.

We are taught by Wright and his co-workers, that the positive phase achieved by vaccination is only a transient rise and that the opsonic resistance if permitted will decline in a few days. Consequently it should be the aim to raise and maintain the opsonic index above normal by the judicious use of vaccines.

The question regarding the efficacy of stock vaccines should receive some consideration, at this time. Those who have experimented along these lines, have come to the conclusion that with the exception of T. B. vaccines, stock vaccines have doubtful value. It is true, however, that some benefit has been brought about in the initial treatment of infectious diseases by the use of stock vaccines, but after reaching a certain point, they lose their virtue. It then becomes necessary to resort to the use of an autogenous vaccine or a vaccine produced from the invading organism. As far as T. B. vaccine is concerned, reports of investigators seem to point to the fact that it is practical and efficient providing that in the vaccine treatment of a tuberculous patient, we take into consideration the fact that there is in most cases of tuberculosis a mixed infection. In such cases, it is necessary to determine, if there is a mixed infection, and if so, what is the nature of the invading organism, other than the tubercle bacillus. Usually the mixed infection is due to the presence of some staphylococcus or streptococcus or both. In the vaccine treatment therefore, of a case of tuberculosis, it is not only necessary to use a tuberculous vaccine but also to use a staphylococcus vaccine, or a streptococcus vaccine, as the individual case requires. This rule holds good in the vaccine treatment of all infectious diseases.

It is assumed that where an infection occurs the relative resistance or relative opsonic power or index is lower than normal. The lowered opsonic index is thought to be due to the absence, partial or complete, of autoinoculation. By autoinoculation is meant the escape of bacteria or their products from the focus of the disease into adjacent lymph or blood streams. The result of such an escape is to increase the opsonins or bacteriotropic substances in the blood serum by stimulation of the machinery of immunization and often to cure or relieve the infective process. The absence therefore, of autoinoculation determines the persistence of the infection and indicates the necessity of interference with bacterial vaccines by means of inoculation. In the

great class of infectious diseases, where autoinoculation is slight or absent, there are included many tuberculous affections, such as tubercular disease of glands, bones and early or moderately early pulmonary tuberculosis. We find here also boils, acne, sycosis, felons, gonorrhoea, and many cases of sepsis and persistent sinuses, etc. It is this class of diseases where the infection is localized and where in consequence autoinoculation is withheld that inoculations with bacterial vaccines has been most successful.

As far as pure septicemias are concerned, such as puerperal septicemia, ulcerative endocarditis, etc., these have generally lowered opsonic power, but in diseases where auto-inoculation is a characteristic feature, such as pulmonary tuberculosis, the opsonic power or resistance fluctuates from low to high, and from high to low.

As to how far we may apply vaccines to the treatment of infections generally, is a question for the future. It is necessary for us to see clearly that opsonins are only one class of a series of antibodies protecting the body from infection, further invasion or aiding in overcoming an active infectious process. If we recognize this fact we shall not expect to find a sure cure by the use of this agent alone.

Despite some opposition to the therapeutic application, the discovery of opsonins must be regarded as a significant forward step in the study of immunity and pathology in general.

Personally I have devoted considerable time to the practical consideration and study of the subject during the past year. Being connected with a municipal laboratory, occupying a chair of bacteriology in a medical college, and having privileges at our County Infirmary, opportunity for working along the lines of the treatment of human infectious diseases has been very favorable. Having had some experience with the vaccine treatment of tuberculosis, gonorrhoea in its various forms, colon infection of the kidneys and other organs, furunculosis, sycosis, pneumonia, a few cases of sepsis and persistent sinuses, etc.,

I am in a position to state that this line of treatment as far as infectious diseases are concerned, is beyond question the most rational and most efficient, that has yet been brought before the notice of the scientific world. I have frequently seen cases that had been under treatment for years by the older methods without success, succumb to a few injections of a proper vaccine. In fact some results obtained have seemed to border on the miraculous and would sound incredible if detailed at this time. Of course there is great room for improvement in the technique of the treatment but so many investigators are working on the problem all over the scientific world that it is only a question of a short time until the method is perfected.

THE ARISTOCRACY OF PORK.—When Theodore Parker first visited Cincinnati, at that time the recognized leader among western cities, he said that he had made a great discovery—namely, that while the aristocracy of Cincinnati was unquestionably founded on pork it made great difference whether a man killed pigs for himself or whether his father had killed them. The one was held plebeian, the other patrician. It was the difference, Parker said, between the stick 'ems and the stuck 'ems, and his own sympathies, he confessed, were with the present tense.—(*T. W. Higginson in Atlantic Monthly.*)

COLLECTING COWBOY SONGS.—John A. Lomax, associate professor of English in the State Agricultural and Mechanical College at College Station, is preparing a compilation of native ballads and songs of the West, particularly those known as "Cowboy Songs." Mr. Lomax says these songs have for the most part never been in print, but, like the Masonic ritual, are handed down from generation to generation by word of mouth. He has collected nearly 100 and is certain there are many others, which he hopes to secure. These songs deal mostly with the range and with heroes of tragedy and desperadoes like Jesse James and Sam Bass. They also include ballads of buffalo hunters, freighters and rangers. Mr. Lomax does not draw the line, and is as anxious to secure those that are crude and even vulgar as the printable sort like that one familiar in all cow camps that begins: "Bury me not on the Lone Prairie-e."—(*San Antonio Express.*)

OUR PERSONAL RESPONSIBILITY TO THE PROFESSION.

BY DR. CHARLES G. LAMB, DENVER, COLO.

Presented to the 45th Annual Meeting of the American Veterinary Medical Association, Philadelphia, 1908.

When asked by our president to prepare something for this meeting upon a subject of my own choosing, I was led to choose this subject because I fully believe that many of us especially the younger graduates do not sufficiently consider and appreciate what a great personal responsibility to the profession rests upon each member of it.

I am one of the younger members of this association, not in point of years, but in length of membership; not that I have not been eligible, but because I did not sufficiently realize what an honor and a privilege it was to be a member; but since I have become a member I have attended every meeting and it will be some obstacle which is beyond my power to remove which will prevent my attendance upon all future meetings.

My personal experience is, and I presume it is the experience of every other member, that these meetings are an inspiration to all who attend. The personal contact with and the personal conversation with our brother practitioners from various portions of the country act as an inspiration; the reading of papers upon professional subjects and the discussions which follow are an inspiration, and the veterinarian returns to his home and patients inspired to become a better veterinarian, a better man and a better citizen.

One fact which is especially apparent to those of us who are older in years and which is emphasized by our attendance upon these meetings is the wonderful advance made by the profession during the past few years and which is being made every year.

I use the word advancement advisedly. Some have used the word elevated, and say "how the profession has been elevated."

I object to this term as, in my opinion, the profession always has been and always will be upon such an elevated plane that it is beyond the power of us or any one else to still further elevate it. When people say that the profession is being elevated, they mean that an increasing number of professors or numbers of the profession are climbing up nearer the level of the already elevated profession.

I say we marvel at the advancement of the profession; we listen to the reading of highly scientific papers by eminent investigators; we read the splendidly written books treating upon professional subjects; we follow as closely as we may the investigations of eminent pathologists and regard almost with awe the results that have been attained by these scientists in the realms of veterinary science.

Now a large majority of the members of the association is composed of men actively engaged in practice, engaged in the very laudable endeavor to keep the wolf at such a distance from their door that his howls may not disturb their well earned slumbers. These men might be inclined to say: "Yes, the profession has made wonderful advancement during the past two years, but I have not been able to do much toward it. I have been in private practice and have not had the time, perhaps not the ability to do much." Such an one might feel disheartened at the advancement of his profession in which he had apparently no part, if he looked upon the advancement from one and only one view point. I would remind such an one that great as has been the advancement from a purely scientific point of view, this advancement does not compare with the advancement from the point of view of the change in public opinion. We all realize what a change has taken place in public opinion regarding our profession.

It is not necessary for me to refer to the old time "hoss doctor" with his cure-alls for imaginary ills of the animal kingdom, nor his reputation in financial or social circles, and compare him and his standing with that of the veterinary surgeon of

to-day. We realize all this fully. But what is the cause of this change? Is it because educated, scientific veterinarians have written learnedly upon various subjects or have made wonderful discoveries in the realms of pathology? Not necessarily. These things could not well change public opinion of our profession because the public generally do not read these works or keep in touch with discoveries in veterinary pathology. These are for the professional man and not the public. So while we gladly and heartily accord them the honor and praise they so richly deserve, we must look elsewhere for the cause of the change in public opinion.

The public is willing to accord to the veterinarian and the veterinary profession any position which they demonstrate they are entitled to occupy; but before advancing them it must be positively demonstrated that they possess a thorough knowledge of their subject; that the knowledge is applied in a scientific and careful manner and that the public may be assured of their absolute honesty and trustworthiness. When these things are assured, the veterinarian will assume in the opinion of the public the position accorded any person in any profession possessing these qualifications.

Now in the place of the "hoss doctor," in most cases illiterate and in too many cases dissolute and unreliable, have appeared well educated gentlemen who, by their uprightness, fair dealing and unimpeachable character, have convinced the public that the profession deserved and must obtain a better position in the public mind. The public has recognized the justness of the position and has advanced them to a position far superior to that occupied a decade ago and will continue to advance them just as fast as it is demonstrated they are entitled to it.

In this advancement every member of the profession has participated who has been a gentleman in the broadest acceptance of the term. The present reputation is and the future reputation will continue to be entirely in the hands of the individual members, equally as much in the hands of the humblest as the greatest.

We all know men, and some are within sound of my voice at this moment who have done much to advance the profession along scientific lines; who have conducted investigations and written books of great value to the profession; whose personal life and character have been of even more value to the profession than their writings.

In the future advancement of the profession, a very grave responsibility is placed upon the educators in our various institutions. That they realize this responsibility and are splendidly meeting it is evidenced by the personnel of their graduates. But they should never lose sight of the fact that it is not only their high privilege, but their bounden duty to not only give their students all the scientific knowledge possible, but to impress upon their minds the fact that when they enter upon their practice of the profession, the reputation of the entire profession is in their hands, and they should be taught both by precept and example that they owe a higher duty to themselves, the profession and the public than simply to put into practice what can be learned in text books. That while most of them may not be permitted to advance the profession scientifically, they are each in duty bound to advance it morally.

Let each one of us, however old or however young, receive an inspiration from this meeting, and as we return to our homes, let us remember that we each, individually, represent the entire profession in our respective localities; let us realize that the profession is advanced or retarded just in the proportion as we are a credit or a discredit to it, and as a chain is no stronger than its weakest link, let us each resolve to be a strong link in an unbreakable chain of professional honor. Then will the profession continue to advance until it obtains the position rightfully belonging to it and we shall have each fulfilled our personal obligation.

How poor are they that have no patience! What wound did ever heal but by degrees?—(*Shakespeare.*)

THE RELATION OF ECZEMA TO TISSUE REACTION AND CONSTITUTIONAL DERANGEMENTS.

BY DR. EDMUND MACKEY, SOUTH SAINT PAUL, MINN.

Presented to the Minnesota State Veterinary Medical Association at the Duluth Meeting, 1908.

In comparing a large number of eczematous diseases, a close observer will be struck by their marked dissimilarity in character and appearance. It is true, lesions will vary with the location of the disease, structure of the tissues, age and physical condition of the patient; but even when these conditions are as nearly as possible the same in different animals, the subjective and objective symptoms will be widely different.

The results of the usual methods of treatment are equally dissimilar and surprising to the veterinarian. One patient will recover in a few days with the help of a purgative and some soothing application, while another equally promising case will baffle the skill of the most experienced specialist, and drag along in misery for months and years.

The question may be asked: Why are some cases so amenable to treatment and others so rebellious to the most persistent efforts of the veterinarian? Our answer is that the treatment usually adopted conforms to the views of each veterinarian on the etiology and pathology of the disease. These veterinarians differ widely from each other because their views are derived largely from writers who advocate widely different theories, and these theories are accepted or rejected according to the convictions of those who are sought to be influenced.

One class of writers affirm eczema is strictly a local disease; another class point to micro-organisms as the essential factors, while another class attribute the disease to constitutional causes.

Now, these writers are all partly right and partly wrong, and any veterinarian who accepts unreservedly the theories of any one of them will find in practice they are inadequate, and often unproductive of satisfactory results.

It must be realized that many factors of a constitutional and local character may co-operate in the production of eczematous diseases, some in one case, and some in another, and it is incumbent upon the veterinarian to institute a careful search for such as operate in particular case, to the end that they may be eliminated.

Upon accurate diagnosis and a judicious choice of therapeutic agents successful results chiefly depend. Furthermore after ascertaining the predisposing and exciting cause of this disease, the veterinarian should not be satisfied to dismiss his client with a simple prescription for drugs, but should give him written instructions on hygiene and diet applicable to his case. The latter often contribute as much, if not more than the former, to a successful outcome of this disease.

The influence of constitutional disorders on the genesis of eczema will be recognized by those who are familiar with its history. It must be conceded that no external irritant is capable of producing a typical case of eczema in a perfectly healthy animal. But, on the other hand, an internal irritant, seconded by tissues which react to it, is capable at times, without extraneous aid, of developing the typical eruption.

If further evidence is needed to establish the relation of eczema to constitutional disorders, it is only necessary to refer to the inadequacy of local treatment alone to cure the disease. In view, then, of the above facts, it is reasonable to claim that eczema depends upon hereditary or acquired constitutional derangements, with tissues peculiarly endowed with a reaction to irritants. A prominent feature of these constitutional disorders is an accumulation and retention in the blood of peccant material which the emunctories have failed to remove. The emunctory organs, which are chiefly responsible for imperfect elimination of excrementitious matter, are the kidneys, liver, bowels and skin. Among these the kidneys and bowels are most at fault. In the most obstinate cases of eczema an examination of the urine will almost invariably disclose a deficient

excretion in both its liquid and solid elements, and in proportion to the improvement of these conditions will be noted an improvement in all the symptoms of the eczematous eruption.

The peccant materials retained in the blood are the uric acid, oxalic acid and other products of imperfect oxidation. In these chronic cases of eczema there is usually obstinate constipation, and this channel of elimination is proportionately blocked, with a consequent contamination of the system from absorption of toxic material.

The liver exerts a special oxidizing function, and many of the imperfectly oxidized products retained in the system are due to deranged hepatic functions, which are notable accompaniments of stubborn cases of eczema.

A thorough appreciation of all these concurrent phenomena and a wise application of the proper correctives will do much towards converting rebellious cases into readily curable cases of eczema.

The task of the veterinarian is to remove as speedily as possible the existing lesions, and rehabilitate the constitution and habits of the patient in order to diminish or abrogate the tendencies to relapse. With a thorough renovation of weak organs the tissues will gradually overcome the habit of reacting to slight irritants, and the patient will enjoy immunity from recurring attacks.

One of the most neglected or abused therapeutic agent in this disease is the bath. One class of veterinarians are incessantly rubbing and scrubbing their patients' bodies with hot or cold water applications, totally regardless of consequences, while another class scrupulously refrain from even the luxury of an occasional ablution. Without desiring to discuss at this time the merits or demerits of the bath in eczematous affections, it may safely be stated that, with the exception of special cases in which the infiltrated skin requires frequent application of soap and water, a bath once or twice a week is sufficient for hygiene of the skin and purposes of cleanliness under all ordinary cir-

cumstances of life. Oftener than this would be detrimental to the welfare of the patient, and should not be allowed.

One of the most tormenting symptoms of eczema is itching, and this is usually aggravated by the inordinate use of the bath. It should be the aim of the therapist, both by internal and external treatment, to abate this intolerable nuisance. By this means the comfort of the patient is not only promoted, but excoriations and complication from scratching are prevented. In a large proportion of cases an acid condition of the blood and constipation are the underlying factors. Added to these there will usually be hepatic torpor. To relieve these conditions alkaline purgative and mercurial preparations are indicated. An alkali should be selected which also exerts a diuretic action without a tendency to deglobulize the blood. Salts of Lithium and Potassium Carbonates will best fulfill these indications.

BETTER MUNICIPAL MEAT INSPECTION.—With a view to increasing the efficiency and effectiveness of his meat inspection force, Chief Bayard C. Fuller, of the Food Division of the Health Department, of New York city, who had charge of that branch of the inspection since September, is making numerous changes in the system of inspection, notably providing that every abattoir in the city shall be inspected on behalf of the city, whether Government inspected now or not. A system of rotation has also been established, in order that the men will visit all establishments in turn. Measures which insure harmony between the state, city and federal inspectors have also been taken, with a view to securing the maximum of efficiency.

Recently Mr. Fuller has had his force increased by two inspectors and two veterinary physicians, and a system devised whereby all doubtful cases shall have prompt attention and expert investigation. The entire staff of abattoir inspectors has been uniformed and so equipped as to be prepared to conduct their inspection at close range with the butchers, rather than at clean and convenient distances. Each inspector is required to have two khaki uniforms and a cap, riding boots, etc., wear belt with knives, etc., and to personally watch the slaughtering proceedings. Uniforms are to be changed and washed weekly.—(*Journal of Commerce.*)

THE INJURIOUS EFFECTS OF THREE CALKED SHOES UPON THE HOCK JOINTS OF HORSES.

By JAMES McDONOUGH, D.V.S., MONTCLAIR, N. J.

Presented to the 25th Annual Meeting of the Veterinary Medical Association of New Jersey,
Trenton, January 14, 1909.

It is not so many years ago that when called upon to examine a horse for soundness, or unsoundness, we were careful not to recommend one that showed well defined enlargements on the inside of the hock joints, where a spavin is likely to appear. But today we would scarcely undertake the task of finding a team that has not one or more of the hocks affected in this way.

As this condition is likely to result from an increased strain at that point, I feel that it is dependent upon us as veterinarians to determine its cause, and, if possible, to remove it. Not alone because this condition renders these animals less serviceable, and therefore less valuable, but also for the reason that the only possible cause why these animals are less serviceable is that they are rendered so by the suffering they endure as a result of this condition. So from a humanitarian standpoint we, whose duty it is to relieve so far as possible, the sufferings of all domesticated animals, should be the first to give this subject the most careful consideration.

With this object in view I have attempted, so far as my limited knowledge would permit, to determine the cause, if possible, or at least find some existing condition that might appear as a likely or possible cause. And as a result of this investigation and experimentation I feel that I can say to you without fear of contradiction that the three calked horseshoe, the ordinary every day heel and toe shoe, is responsible for more deformed hocks than all other causes combined.

The ability of the hock joint or any other joint to perform work is largely dependent upon the relation of its component

parts to each other. For, the slightest change in the relation of these parts can only result in a transfer of strain from one part of the joint to another. And it would seem that Nature when forming the hoof had in mind the necessity of providing ample support to the limb on either side. She evidently was conscious of the injury that would result from its displacement in that direction, for the greatest diameter of the hoof is at that place.

When we apply a three calked shoe we not only rob the hock of the extra support offered by the increased width of the hoof, but we rob it of all support on either side, and compel the animal to perform its work with the foot resting upon a surface of from 2 to 2½ inches in width at the toe, and from 3 to 3½ inches in width at the heel, with absolutely no support on either side. Now we have not only deprived the hoof of its lateral bearing to the extent of permitting the limb to deviate from its natural axis, but the increased wearing away of the shoe at its outer side, soon forces the foot into a position that causes a disequilibrium of the limb, thereby increasing the strain on the inside of the same which results injuriously to the hock joint, the seat of spavin.

To prevent this it is only necessary to provide a shoe with a calk on either side, midway between the toe and heels. By doing this we prevent the foot from rocking to either side, and provide for the limb the support necessary to insure for it some degree of comfort during the performance of its work.

For the same reasons I wish to state my objections to the use of the sharp calked shoe, with the additional objection that the inside calk is often made blunt to prevent injury to the opposite limb, thereby increasing the wearing qualities of the shoe at a point where the least wear takes place. And I wish to call your attention to the advantages of a shoe equipped with a dull calk on either side as previously referred to. These dull calks not only offer support to the quarters, thereby creating a stable base for the support of the limb, but they also provide a substantial wearing surface and reduce the work of the sharp calks to the prevention of slipping. I wish to lay special stress upon the advan-

tages of this shoe as compared with the three calked sharpened shoe of the present time, since I have used them on my horses with the most gratifying results.

I will now conclude by asking you to cooperate with me to the extent of taking such action at this meeting as will advance it to a point where a practical demonstration can be made, showing the advantages of this method of shoeing where calks are used. And, gentlemen, I feel that there is no one act that can be accomplished by this Association, that will result in so much good, and be more appreciated by the horse-owners throughout the United States as our discouragement of the use of a three calked shoe, and the substitution of one that will not only add to the comfort of the animal but increase his value by prolonging his usefulness.

A SUBSTITUTE.—“I am sorry, my dear sir, but I neglected to bring my surgical instruments with me.” “That will be all right, doctor. The plumber who has been working in the cellar has left his tools here.”—(*Exchange.*)

A TACTFUL CRESCENDO.—“In the province of Holstein,” says a traveler who spends a good deal of his time abroad. “where, of course, nothing is more important than the breeding of superior cattle, the country people are not only very thrifty but exceedingly fond of their cows, as may be gathered from a characteristic story current there:

“It appears that one farmer was walking sadly down the road one day when the village pastor met him.

“‘Why so downcast, friend?’ said the pastor.

“‘I have a sad errand, pastor,’ replied the farmer. ‘Farmer Henrick’s cow is dead in my pasture, and I am on my way to tell him.’

“‘A hard task, indeed.’

“‘You may well say so, pastor, but I shall break it to him gently.’

“‘And how will you do that?’

“‘Oh, I shall tell him first that his father is dead, and then, having opened the way for sadder news still, I shall tell him that it is not his father, but the cow!’”—(*Harper’s Weekly.*)

REPORTS OF CASES.

"Careful observation makes a skillful practitioner, but his skill dies with him. By recording his observations, he adds to the knowledge of his profession, and assists by his facts in building up the solid edifice of pathological science."

CONGENITAL MALFORMATION.

Dr. C. L. Barnes, Veterinary Department, Colorado Agricultural College.



This photograph is of a six months' old filly presented at the Clinic of Veterinary Department. The sire of this filly had a deformity of one shoulder, projecting outward. The dam was a good Percheron mare. The filly when foaled could stand much straighter than at present, but as it grew older the legs became more bent out until at this time it can hardly walk. The photograph illustrates the tendency to congenital malformations and what may be produced when animals are bred with defects or abnormalities.

EXTRA UTERINE GESTATION.

By A. B. SUMMERS, M.D.V., Alexandria, Ind.

December 3, 1908, at 7 o'clock P. M., I was called to see a Holstein cow, 6 years old, weight 1,100 lbs., which had been due to calve November 26. I found cow in a recumbent position and in great pain. I made her get up; she staggered and would kick abdomen with hind feet; her tongue was protruding from mouth, breathing accelerated, temperature 106° F.; vulva looked natural and no signs of wanting to calve outside of the colic symptoms, so I prescribed magnesium sulphate, 1½ lbs., to be given in warm water. I told client I would call in the morning, as she might get ready to calve in meantime. Upon my return I found patient no better. I suspected extra uterine gestation, and, making a digital exploration through vagina, I

was positively convinced. I found the uterus empty and the os uteri closed in a normal condition. By this time the symptoms became alarming, hurried pulse, quick breathing, haggard expression, ears had fell forwards, and general indications pointed to fatal termination. I gave her 1½ oz. Chloral Hyd. and told client I would operate, but he would not submit her for an operation. November 5 I was hurriedly called and upon my arrival found cow dead. To confirm my diagnosis, as well as to satisfy my client, I held a post-mortem and found a fully developed foetus in the abdominal cavity. The pseudo-membrane containing the foetus had ruptured and the liq amnii had escaped; the hair had begun to slip on foetus and body was tympanitic. Owing to rupture of the pseudo membranes around foetus there were complicated inflammation and peritonitis. I found the rumen very small, probably had a capacity of only four or five gallons. The cow had been in a perfectly healthy condition up to time. Well, I learned something. Had I been called in time, which is rarely the case, I could probably have saved the cow and calf by operating. Should I have been correct in the diagnosis, which can positively be done by examination per rectum or vagina which will reveal the uterus in a natural (unimpregnated) size. Further exploration may detect a mass apart from the uterus and in the interior may be felt the characteristic body of the foetus and if alive and can be stimulated to move the evidence is positive.

A MALIGNANT FORM OF CANINE DISTEMPER.

By MARK WHITE, V.M.D., Denver, Colo.

I observe in Denver a form of distemper of the dog, which affects the animal quite differently from the usual form of distemper commonly met with. The dog shows the digestive complication and bleeds from his nose and discharges with it some pus, later the mucous membrane of the mouth shows a brick red discoloration and inflammation followed by bleeding from the mouth and bowel. These cases all die within a period of not over seven days, and appear to mortify in the bowels before death, the odor from the mouth being horrible. The mucous membrane looks like the mouth of a copper head. I have never seen one of these cases that recovered and they are very numerous; would guess that 5 to 10 per cent. of the cases of distemper that I see are of this severe form. They all die in spite of the best treatment I am able to apply.

TAPE WORM COMES OUT OF GUNSHOT WOUND IN DOG.

By MARK WHITE, V.M.D., Denver, Colo.

Bull terrier dog, shot through the abdomen on right side, bullet passing through the bowels and lodging under the skin on the opposite side. The bullet was a 22 caliber; the dog died from internal hemorrhage of the bowels. The peculiar coincident of the case was, on first view of the dog I observed a tape-worm, twelve inches long, hanging out the hole made by the bullet on the side of the dog, which was the right side. Can any one explain how a tape-worm could find its way out from the intestines of the dog, passing from the abdominal cavity, peritoneum, abdominal muscles and the skin to the exterior of the dog? It must be remembered that the bullet did not pass out through the skin of the left side, but lodged just under the skin, so it was not possible for the worm to have been shot through and out of the dog.

WANTED THE OTHER ONE.—A handsome and neatly dressed young woman was walking down the street the other day, followed by her favorite dachshund pup. It was market day, and the pavement being somewhat crowded caused the dog to get some distance behind its mistress. Fearing it would lose sight of her, she called, "Come along, sir!" A would-be wit who was near stepped up to her and with great politeness said, "Certainly, miss." "Ah," she exclaimed as her pet came running up, "you have made a mistake! This is the puppy I called."—(*London Tit-Bits.*)

SLIPPERY STREETS RENDERED SAFE.—Consul Frank S. Hannah reports that the street cleaning department of Madgeburg has recently made successful experiments with a new sand-strewing wagon constructed by Hermann Fricke of that German city. The wagon spreads rapidly an even layer of sand on the streets which, in the case of asphalt paving, is of great benefit, in that it minimizes the slipping of the horses when the streets are either extremely wet or frozen. This has heretofore been done in German cities exclusively by hand. The apparatus is worked by the driver and can be adjusted to strew a layer of sand or gravel from 6 to 16 meters (19.68 to 52.49 feet) wide. The new machine has been taken over by the city.—(*Consular Report.*)

ARMY VETERINARY DEPARTMENT.

VACANCIES IN THE ARMY VETERINARY SERVICE FILLED.

With the appointment of Dr. Alfred L. Mason to the 13th Cavalry, and that of Dr. Herbert S. Williams to the 15th Cavalry, the long remaining vacancies in the Army Veterinary Service have finally been filled.

By the acts of Congress of March 3, 1899, and February 2, 1901, forty-two positions for veterinarians were created for the cavalry and field artillery, and it took the military examining boards all these years to find properly qualified candidates from the many of our American veterinary colleges, even with the bars let down as to the age-limit (27 years) of several of the successful candidates.

This record is not particularly pleasing. It is difficult, of course, to assign a just cause for this circumstance, and while a large number of candidates have failed to satisfy the examining boards as regards their qualifications, it seems, on the other hand, that the military authorities are willing to acknowledge, that the position of the Army Veterinarian is not attractive enough to induce the best of our American veterinary graduates to enter the service.

Telephone Communication Between Two Riders.

In the Cavalry Journal Lieut. A. C. Knowles describes the method of communicating by telephone between two mounted men separated by a distance of five miles and on the move. This was done by placing a small piece of copper (properly connected to the instrument) against the animal's body, and as the horse always has one or more feet on the ground while moving at any gait, except possibly the gallop, which would seldom be resorted to, the ground connection is completed through one or more hoofs. Of the several horses used in these experiments, only a few showed any discomfort, and those that were affected by the current were soon quieted. They appeared to exhibit surprise rather than pain at something unusual, to which they quickly became accustomed. These tests were made over all kinds of

ground—very wet, muddy, moist, perfectly dry and dusty roads and fields, with results of practical value. With two mounted operators similarly equipped, and separated by five miles of wire, conversation was carried on without difficulty, the horses standing in grass. The buzzer was loud enough to be heard several feet from the instrument.

Remark.—This is a discovery of a new and interesting usefulness of the horse. Curiously enough, something of this nature was suggested by an army veterinarian in conversation with a young officer of the Signal Corps as long ago as 1904, but the idea met then only with a smile. Now, however, it has become an invention of the Signal Corps, which undoubtedly is given credit not only for the practical application but for the idea as well. The successful installation of a transportable wireless apparatus in the field, as shown in our last year's manœuvres, may soon make all telephone connection on the battle field unnecessary, but in emergencies the horse will be found to be there for the above use when all else has been disabled.

O. S.

HIS DEFINITION.—A teacher in a certain school asked for the definition of a furrier. A hand was raised. "Well, John, you tell us what a furrier is." "A man who deals in furs," correctly replied the pupil. Then, turning to another scholar, the teacher asked for the definition of a currier. "A man who deals in curs," was the unexpected reply of the eager boy.

RESULTS OF EXPERIMENTS WITH MORPHINE.—From experiments on dogs Faust had concluded that the comparative immunity against morphine which follows from its habitual use, is not due to the tissues becoming accustomed to the drug, but to an increasing capacity of the organism for destroying the poison. This view has recently been confirmed by Rübsamen, who showed that immune rats actually do break down the morphine in their system more rapidly than the normal rats. However, it appears that the immunity must be due to two causes: first, as stated above, to an increased capacity for destroying the poison in the system, and secondly, to a cellular immunity, for within the first hour after injection a large amount of the poison still circulates in the body, without affecting the individual.—(*Scientific American.*)

ABSTRACTS FROM EXCHANGES.

ENGLISH REVIEW.

BY PROF. A. LIAUTARD, M. D., V. M.

AZOTURIA [*G. Jones Roberts, F. R. C. V. S.*].—A bay mare, six years old, has been in the stable for two days, is put to work and about two miles from home had a very bad attack with the usual symptoms. Treated, she makes an uneventful recovery. Three months later, she had another attack following a rest of one day and "every time she was taken out for exercise, if it was only for 200 yards, she would get a slight attack." In those, the urine was not discolored. She was turned out for four months and when taken up, worked well for a year, when she picked up a nail. Fed then only on hay and bran, when she is exercised for the first time, she showed the usual symptoms. All right after a fortnight, she is exercised one hour and later driven about ten miles, when she was taken badly. In all she has had about twenty attacks and now is working all right again. Her superior qualities as the best trapper he ever had made the owner keep her.—(*Veter. Record.*)

VAGINAL TUMOR [*O. Trevor Williams*].—Suffering with acute pains and difficult micturition, a two year old filly was visited by the author. She is covered with perspiration, passes urine only in dribbling quantity and on examining the vagina, it is found blocked with an enormous growth. It is attached by a large, thick peduncle from the roof of the vagina, right above the os uteri. Its size prevents it being brought out in a mass, it was decided to take it off in parts. Three pieces were torn away first and the remainder then pulled through the vulva it was possible to apply a strong ligature round the peduncle. The hemorrhage was stopped and the balance of the tumor taken off. The peduncle was as big as a man's wrist. The whole tumor weighed eleven pounds. The recovery was uneventful. (*Ibid.*)

RUPTURE OF THE STOMACH [*Major R. L. Crawford, A. V. C.*].—A mare showed on the near side of the neck and on

the shoulder abrasions of the skin which were said to be due to bites from another horse but which proved to be due to injuries from a kick. Three days after, there is an œdematous swelling extending in front of the chest and between the fore legs. The temperature is up to 103° F. Manifestations of post pharyngeal abscess are exhibited and also muco-purulent discharge from the nostrils. Later portions of food returned by the nose. About two-thirds down the neck, just over the abrasions, pointing of the skin is observed, lanced and the cavity dressed with carbolic solution. The next day fluid and food are discharged through the opening of the abscess. This is enlarged by an incision made downwards and a rupture of the œsophagus is exposed with edges foul and necrotic. The animal was destroyed. The post mortem revealed that the rupture involved the œsophageal coats about two-thirds across with the edges sloughing. The surrounding muscles were infiltrated and in a state of decomposition. There was a collection of pus in the guttural pouches not in connection with the injury of the œsophagus.—(*Veter. Record.*)

PURULENT METRITIS [*C. V. Dalrymple-Hay*].—A fox terrier slut had a purulent bloody discharge from the vulva. Vaginal examination revealed nothing in utero, but from outside palpation, showed the cornua full and hard. As the animal is in very low condition, it is decided to operate on her as the only chance of saving her. The abdomen was opened, followed by escape of serous effusion and blood. Both uterine horns were brought out and the left found ruptured. Hysterectomy was performed, uterus and cornua being taken off. The temperature was 104° F. on the day of operation and fell two degrees during the next two days. The slut recovered without any trouble.—(*Veter. Journ.*)

CEREBRO-SPINAL MENINGITIS IN DOGS [*E. H. Stent, M. R. C. V. S.*].—Record of an outbreak in which four fox terrier bitches had been affected showing stiffness in gait, grunting in being touched, with later an inability to rise. There was rapid breathing, but the appetite was normal. In one being placed standing on her four legs, she could stand but was afraid to move, when started to walk she would move quickly with short steps. On moving her head to the right, the tail would curl to the left and vice versa. On raising her head she would suddenly collapse. At the post mortem the meninges of the brain

and cord were found much inflamed. Considering the trouble as of infectious nature antiseptic treatment was resorted to, sublimate injections in the uterus and iodide of potassium internally. Tonics and heavy feeding. This was followed by good results. Disinfecting measures were also resorted to.—(*Ibidem.*)

RARE ACCIDENT DURING PREGNANCY [*A. W. Noel Pillers, M. R. C. V. S.*].—A mare was pregnant and about her time she is found lying down and said to be foaling; she is made to get up and then she began to kick with all her four feet with such vigor that it has become dangerous to go about her. As she had laid upon stinging nettles, these were supposed to be the cause of her behavior. But on looking about her abdomen and under it, it was found that the skin, from the umbilicus back to the udder, looked as if it was going to crack. Then suddenly a piece of the bowels protruded, which was soon followed by more. The intestines, kicked about and torn and entangled with her hind legs, soon all dropped to the ground. The mare fell down in agony and soon died. The foal was taken out of the uterus alive but lived only two days. No positive cause could be attributed to the accident.—(*Ibidem.*)

A FORM OF SKIN DISEASE IN DOG [*Prof. J. F. Craig, M. R. C. V. S.*].—The animal has had skin trouble for several weeks, which, treated with sulphur, has been getting worse instead of better. He scratches much and the head is most affected. A large raw wound due to scratching is below the left eye and round it the hair is all off. There are dark small areas scattered over the skin around both eyes; these are sub-cutaneous hemorrhages. A few of them contain thick fluid of dirty brown color. Where these burst, there remains a small ulcer. Similar lesions are found inside the left thigh and on both fore legs. No bacteria or other parasites could be found. Calomel, liq. arsenicalis and syrup of ferri iodid. were administered, and in two days general improvement was manifest and followed by complete recovery.—(*Ibidem.*)

TWO INTERESTING CASES OF PROLAPSUS [*J. Eddes Tail, M. R. C. V. S.*].—I. *Amputation of the uterus of a ewe.* The animal had delivered two live lambs but had a prolapsus of the uterus, which was much soiled and gangrenous. Amputation was resorted to as follows: "A large needle and a double thread were passed through the center of the mass, after thoroughly cleansing it as well as possible, with warm carbolic acid and

water and the ends were tied off around it on either side. The part below this was then amputated. No hemorrhage resulted and the stump was returned into the vagina." Within a week the animal was as well as ever.

2. AMPUTATION OF THE RECTUM IN A DOG.—A pointer puppy has 5 inches of his rectum protruding. Excision was the only hope to save him. "Taking two needles, each with a long single thread, they were passed through the center, the protruding portion was excised and the threads were picked up where they crossed and four separate ligatures made. When tied, these enclosed the whole of the wall of the bowel. There was very little straining and no complication followed."—(*Veter. Journ.*)

DEFERRED DISPLACEMENT OF A SPINAL FRACTURE [*D. Chatterley, M. R. C. V. S., and Prof. G. H. Wooldridge, F. R. C. V. S.*].—Aged chestnut gelding has his mouth in bad condition, the teeth are sharp and the mucous membrane very sore and ulcerated. The horse is cast to have his teeth fixed. He goes down easily, struggles violently but gets up without difficulty and walks to his stall. The next day he seems stiff and is off his food. This passes off in a few days. Six days after casting he lays down and after 10 or 15 minutes gets up. In the afternoon he lays down again. Next morning he is found unable to rise. He dies two days later. At post mortem, the last dorsal and first lumbar vertebrae, which had been ankylosed during life, were found fractured. It is supposed that the injury was received the day of the casting but that the displacement did not take place for several days after when the horse had laid down.—(*Ibidem.*)

A NEW WORM IN OSTRICHES [*W. Robertson, M. R. C. V. S.*].—This worm has been recently met in ostriches in the colony. It has a somewhat curious situation, being outside the abdominal viscera, between principally, the outside walls of the stomach and the back bone. They are found embedded in a piece of loose membranous material. Their length is very great. Complete specimens have measured 3 feet 6 inches in length. In all the cases where it has been found, it would appear not to have produced any harmful results. In three cases where the writer has found them, the birds had died from injuries and the worm had nothing to do with their death. Examined by an authority he has written that the worm belongs to a species of *Dicheilonema*.—(*Agric. Journ. Cape of Good Hope.*)

FRENCH REVIEW.

BY PROF. A. LIAUTARD, M. D., V. M.

TORSION OF THE UTERUS IN A SOW [*Adj. Prof. C. Cluny*].—Such cases are rare and classical works say almost nothing of its possibility. The author has observed the following, which took place on one of the uterine cornua in a pregnant four year old sow, which had had several litters before, and this time has already delivered seven well formed little fellows, which were found dead on the straw behind her. Usually very ugly and difficult to approach she is now quiet, good natured and is constantly laying down. It is hard to make her get up. She is not making any expulsive effort, but appears to be in great pains. Firmly secured, an exploration is made with the hand introduced way in the uterus which is found empty. The cavity of the right cornua is empty also. But on the left side, the hand is arrested by the opening closed by the folds of the mucous membrane. Pushing the fingers forwards, a kind of funnel was felt which prevented any further entrance. Through the walls, the presence of a foetus is detected. The diagnosis was evident, viz: Torsion of the horn with foetus in the cavity. In what direction was the torsion, could not be made out, prevented as the hand and fingers were, in their exploration by the mucous membrane sticking and adhering to the hand. The owner preferred to have the animal slaughtered than to run the chance of a surgical interference. Cæsarian operation, or partial hysterectomy. On examination of the carcass it was found that the right horn had a torsion making a complete twist and that, as a consequence, had prevented the exit of 5 foetuses, which were all well formed, dead and not putrefied.—(*Journ. de Zootech.*)

ENCEPHALOID SARCOMA OF THE PANCREAS [*Mr. Delroye*].—Tumors of the pancreas of the domestic animals have seldom been recorded. The present was found at the autopsy of an old horse.

The tumor was very large, about five or six times bigger than the organ on which it had developed and which was involved in it. It was bigger than a man's head. Its form was irregular, lobulated, and constituted by a series of lumps irregularly arranged, varying in size from that of the fist to that of an egg. One of them was as big as a kidney and has also the

form of it. It had a whitish aspect and upon section, it shows as well as it did on the outside, here and there red stria and some yellow softened nodules; but altogether the tumors had the aspect and consistency of lardaceous tissue. The whole mass weighed 2 kilogs. 300 grammes. The histologic examination revealed its nature of encephaloid sarcoma.—(*Ibidem.*)

ABNORMALITIES OF GENITAL ORGANS IN HORSES [*Doctor Moore*].—These were obtained at the abattoir of Hippophagy and were found in two geldings, which both had atrophy of the penis. In both the urethra after coming out of the pelvis, instead of bending forward round the ischial arch, ran directly forward towards the perineal region where it ended. In one horse, the penis formed by big and strong cavernous bodies, had a glans penis, or normal size, with a long sheath. It measured 5 centimeters in length. In the other horse, the atrophy of the penis is complete. The extremity of the penis resembles a large clitoris turned upside down, it measures 2 or 3 centimeters and is also covered with a large fold of skin. Both these horses were cryptorchids. The testicles, not larger than a hen's egg, were attached to the lumbar region. The efferent canals and vesicula seminalis were atrophied. In one horse the prostate was normal in size.—(*Presse Veter.*)

LATE DIAGNOSIS OF DIABETES MELLITUS IN A DOG—IRREGULAR OCULAR MANIFESTATIONS [*C. Eisenmenger, Army Veterinarian*].—A twelve year old French poodle is dull and has lost his appetite since three days. The left eye is cloudy. After a few days, these conditions have subsided. The trouble was considered as a traumatic cataract, which in an animal rather nervous, has caused loss of appetite. Three months later, the same symptoms reappeared. The left eye is again opaque; but the opacity is more marked round the periphery than on the center of the crystalline lens. Besides the animal having scratched herself frequently the hair round the eyes is off. After eight days all these symptoms have disappeared. A second time an error of diagnosis was made and the new cataract attributed to some external cause. Six months later the animal has lost flesh, the appetite is delicate, she has great thirst and urinates abundantly. Then diabetes is thought of. The urine analyzed is found to contain 9 grammes 75 of sugar in every litre of urine. Anti-diabetic regime is prescribed and directions left to have the urine analyzed as soon as the manifestations of new cataract

occurred. Two weeks after a double cataract is present and 17 grammes 328 of sugar found. The right eye was less affected than the left which was entirely opaque. At another attack of cataract, the animal being entirely blind was destroyed. At post mortem, the liver was found with a dark brown color, slightly hypertrophied, and surrounded with a serous coat. The heart rather large was healthy. Kidneys normal.—(*Rev. Gener. de Medec. Veter.*)

ATTACK OF EPILEPTIFORM VERTIGO [*Mr. Caillibaud*].—A 17 year old Anglo Normand mare, used for saddle and draught purposes, has for four days been working in a team. The fifth day, she travels about 20 kilometers, rests 2 hours and coming home, goes 4 kilometers when she presents the following symptom. Suddenly she becomes nervous, rears two or three times, drags her mate on one side and drops down. Her body is shivering all over, her teeth are grinding against each other, lips are trembling, face is contracted. abundant perspiration all over her body. Conjunctiva is scarcely congested, pulse is about normal, artery hard. After five minutes she gets up, walks staggering pushing forwards and falls. After a few minutes more, the symptoms subside. She then rises, has a normal micturition, drops a few balls of manure and gradually regains her normal appearance. She is taken home and resumes her work the next day in perfect condition. The author explaining this attack rejects the idea of an epileptic attack, as the mare is 17 years old and has never manifested any symptom similar to those of epilepsy. He rejects the supposition of sun stroke also and attributes the manifestations to the fact that the old mare had a Dutch collar on, when in harness, that ambitious as she was, and pulling very hard the collar interfered with the circulation; cerebral circulation was stopped and the vertigo occurred. As the mare was old, and suffering with arterio-sclerosis, the circulation was slow to resume its normality in the arteries, hence the duration of the manifestations.—(*Rev. Veter.*)

HYPERTROPHIED COTYLEDON IN A COW [*Mr. Magneron*].—The day following a normal delivery, without accident, a cow makes violent continuous efforts which after a few hours are followed by the apparition at the vulva of a tumor, as big as a man's head; globular, dark red in color, and having on its surface some remains of the placenta. By vaginal examination, the tumor is found pedunculated and adherent to the mucous membrane of

the uterus. Further on was found the fundus of the uterine cornua which is partly prolapsed. After cleaning the parts as well as could be done, a catgut ligature was applied on the peduncle of the cotyledon and the mass was then excised. The prolapsus of the uterus was then reduced. In a few days the animal was well. The cotyledon weighed 2 kilogs 400. (*Rev. Veter.*)

PULMONARY EMBOLUS.—SUDDEN DEATH [*Mr. Th. Monod, Army Veterinarian*].—A six year old horse dies suddenly. Nothing wrong had been observed on him; he had been turned loose in the morning and had jumped and kicked freely, he had drank and eaten as usual. The stableman had his attention called by his sudden fall; and as he reached him, finds him dead. Post mortem. The cadaver is in perfect condition. The conjunctivae are pale, the buccal mucous membrane slightly cyanotic; there is no effusion in the splanchnic cavities. Left lung is normal. The right is very firm, œdematous and impermeable; no congestion, no hemorrhage or inflammation present. It seems as if the pulmonary acini are gorged with blood serosity. In making sections of the lung, an embolus of the pulmonary artery is found on a level with one of its first ramifications. The clot is about as big as a small finger, it rides on the edges of a bifurcation of the artery and measures 3 to 4 centimeters in its simple portion and one or two in its bifurcated. It is dense, dry, very rich in fibrin and easily broken up. It is surrounded with a large red clot which occupies the principal branch of the pulmonary artery and the cavities of the right heart. It extends in the vena cava. The presence of the embolism explains the sudden death; but its origin was not discovered.—(*Rev. Veter.*)

TRAUMATIC ARTHRITIS IN A COW—DISARTICULATION—RECOVERY [*Mr. P. Bitard*].—A cow is reported having a bad sore foot and is unable to put weight on it. Indeed, there is an enormous swelling, hard round the coronet of the right hind leg which indicates traumatic arthritis or peri-arthritis, and is extending upwards near the fetlock. On the lower face of the coronet, there is a fistula running in the second inter-phalangeal articulation from which escapes sticking sanious pus. Standing up the animal puts no weight on the leg, which is spasmodically moved up and down as suffering with lancinating pains. The general condition is falling off, the animal losing flesh rapidly and to sell her to the butcher means great loss. Amputation is proposed and accepted by the owner. The animal was thrown and

properly secured. The parts aseptized as well as possible and the amputation performed between the first and the second phalanx, care having been taken to save the skin and the coronary band as much as possible, in order to obtain a solid horny protection for the amputated portion. An antiseptic dressing was applied and the animal allowed to get up. After a week the dressing was changed. The animal only then began to put her foot on the ground and gradually improved. The cavity left by the removal of the phalanges filled up, a secretion of keratogenous tissue formed and a protecting cushion grew for the amputated digit. After 4 weeks the animal rested her foot well on the ground, and after six, walked well. Finally she put on flesh and was disposed of for a good price.—(*Prog. Veter.*)

BELGIAN REVIEW.

BY PROF. A. LIAUTARD, M. D., V. M.

PLEURO-PNEUMONIA DUE TO FOREIGN BODY [*M.M. Genot and Mahia, Army Veterinarians*].—An Irish mare suffering with sinusitis, has the left frontal and superior maxillary sinuses trephined, and injections are prescribed twice a day of antiseptic and slightly astringent solutions to be made with the apparatus of Esmarck. At first the liquid returned freely through the nostrils, but the animal became nervous and rebelled to the injections; she had to be placed in stocks and as she soon took the habit of swallowing the liquids of the injection, which were thrown into the sinuses, to prevent it, the tongue is held, and pulled out of the mouth. For a few days, all went well but one morning it is noticed that her breathing is loud; she breaks out in abundant perspiration, she has violent spells of coughing. She suffers from the introduction of a 2% solution of creoline into her lungs. Broncho-pneumonia is soon fully developed. After a few days pleurisy is no longer doubtful and after one month of treatment when the pleurisy has become purulent and the pneumonia gangrenous the animal dies with 30 litres of turbid serosity in the chest, with a nasty odor of rotten eggs, in

which float fibrinous clots. The lungs are gorged with blood and on section show the pulmonary alveoli containing but little air. Heart, liver, spleen and kidneys have the aspect of infectious organs.

MORAL: There is always great danger in preventing the deglutition of liquids in horses, not only during the giving of drenches but at all times. This case also demonstrates the evolution of a pleuro-pneumonia by foreign body in the lungs, when the ordinary result is gangrenous pneumonia only.—(*Annales de Belg.*)

A CASE OF CEREBRAL TUBERCULOSIS IN A BOVINE [*Prof. A. Vanden Eckhout*].—Tuberculosis of the nervous centers is not uncommon in cattle, and the lesions may locate on the meninges or in the nervous substance itself; hence in clinical phraseology two forms of tuberculosis are accepted, a meningo-encephalitis and a meningo-myelitis. To this last belongs the following case:

A two year old cow is said to be suffering with gid. She is very thin and presents pathological manifestations of the functions of locomotion and innervation. The nervous functions are most depressed and the animal shows the general signs of immobility. She assumes most peculiar positions and remains in them; her back is arched, her four extremities kept close together under her abdomen, if her front legs are placed crossing each other she keeps them in that position as an immobile horse; she shows no sensitiveness to pressure upon the cornea or to the introduction of the finger in her ear. She takes no food nor drink. If forced to walk, she moves in a circle to the left. There is slight nasal discharge. Respiration is slow, vesicular murmur abolished. Cuti and ophthalmo test with tuberculin are negative. Subcutaneous test gives a strong reaction. The animal is pronounced tuberculous and killed. The principal lesions are in the brain. The meninges are infiltrated; there is an abundant yellow serosity. The left frontal lobe of the cerebrum is harder and more firm than the right. It shows on section a tissue of yellow granulations. These tuberculous lesions exist also in the right frontal lobe, but are not so extensive. Besides these cerebral lesions, tubercles are also found in the lungs, bronchial and mediastinal lymphatics and in the liver.—(*Annal. de Belg.*)

CONGENITAL ABNORMALITIES OF THE HEART [*Mr. Huymen*].—These were observed in bovines, where generally speaking, they are not rare.

Rulot has described one in a three months' old calf, which died of pulmonary apoplexy. The heart was hypertrophied; the left ventricle presented six openings: (1) The aortic opening; (2) the two auriculo-ventricular; the right auricle did not communicate with the ventricle; (3) an orifice of communication between the two ventricles through the septum; (4) two other openings of communication between the two ventricles.

Vanden Eckhout observed in a steer one and a half years old, a shivering at the cardiac region. The animal died of gangrenous broncho-pneumonia. At the post mortem was found hypertrophy of the right ventricle, perforation of the intraventricular septum, and persistence of Botal's foramen. The writer has observed two cases of congenital affection of the heart. In one there was increase in size and weight of the organ, the right heart was the most hypertrophied. In the septum, there was an opening establishing communication between the two ventricles. The aortic opening, widely dilated, was riding over the inter-ventricular septum. In the other, the lesions were similar but besides the foramen of Botal was not obliterated.—(*Annales of Belg.*)

EXPORTS of American horses during the six years ending June 30, 1908, were valued at \$21,000,000, while imports for the same period were valued at \$10,000,000. Three-fourths of the import values represented stallions and mares of established European breeds brought in duty free for breeding purposes.

THE ARK UP TO DATE.—Little Richard had been given a lovely ark for Christmas. It contained everything you could think of—elephants, butterflies, spotted cows, blue monkeys, green cats, yellow dogs with purple spots, and a Noah and Mrs. Noah standing at strict attention.

But it didn't contain everything little Richard could think of.

One day his father came upon him placing a couple of tiny splinters in man's first boat.

"And what are they, Richard?" inquired the perplexed parent.

"Why," replied Richard, "dem's microbes. Dere must 'a' bin a pair o' microbes in de ark!"

And, when you come to think of it, so there must.—(*John Bull.*)

CIVIL SERVICE EXAMINATIONS.

VETERINARIAN.

PHILIPPINE SERVICE.

The United States Civil Service Commission announces an examination on February 17, 1909, at the places mentioned in the list printed by the Commission, to secure eligibles from which to make certification to fill about 25 vacancies in the position of veterinarian in the Philippine Service, at \$1,600 per annum each, and vacancies requiring similar qualifications as they may occur in that service. Appointees are allowed field expenses when absent on duty from their permanent stations.

The examination will consist of the subjects mentioned below, weighted as indicated:

Subjects.	Weights.
1. Letter-writing	10
2. Veterinary anatomy and physiology.....	20
3. Veterinary pathology.....	20
4. Veterinary practice.....	40
5. Training and experience.....	10
Total	100

Seven hours will be allowed for this examination.

Applicants must indicate in their applications that they are graduates of reputable veterinary colleges.

Information relative to employment in the Philippine Service, cost of living, leave of absence, transportation, climate, clothing, medical attendance, contract, etc., is contained in section 32 of the Manual of Examinations revised to January 1, 1909, a copy of which may be had upon application to the Civil Service Commission, Washington, D. C.

Applications which are not received in time for this examination will be placed on file for the examination to be held on March 10, 1909.

Age limit, 18 to 40 years on the date of examination.

The medical certificate must be filled in by some medical officer in the service of the United States. Applicants should appear before medical officers of the Army, Navy, Indian, or Pub-

lic Health and Marine-Hospital Service. If such an officer cannot be conveniently visited, a pension examining surgeon may execute the certificate. Special arrangements have been made with pension examining boards throughout the country to give such examination for a fee of \$2, to be paid by the applicant. This certificate must not be executed by the family physician of the applicant. The medical officer should indicate his rank or official designation on such certificate.

Each applicant for the Philippine Service will be required to submit to the examiner, on the day he is examined, a photograph of himself, taken within three years, which will be filed with his examination papers as a means of identification in case he receives appointment. An unmounted photograph is preferred. The date, place, and name of examination, the examination number, the competitor's name, and the year in which the photograph was taken should be indicated on the photograph.

This examination is open to all citizens of the United States who comply with the requirements.

This announcement contains all information which is communicated to applicants regarding the scope of the examination, the vacancy or vacancies to be filled, and the qualifications required.

Applicants should at once apply either to the United States Civil Service Commission, Washington, D. C., or to the secretary of the board of examiners at any place mentioned in the list printed by the Commission, for application Forms 2 and 375. No application will be accepted unless properly executed and filed with the Commission at Washington. In applying for this examination the exact title as given at the head of this announcement should be used in the application.

As examination papers are shipped direct from the Commission to the places of examination, it is necessary that applications be received in ample time to arrange for the examination desired at the place indicated by the applicant. The Commission will therefore arrange to examine any applicant whose application is received in time to permit the shipment of the necessary papers.

IT isn't always well to take the bull by the horns, because under the circumstances you can't very well let go without trouble.—(*Boston Republic*.)

BIBLIOGRAPHY.

TEXT BOOK OF MEAT HYGIENE, an American translation and amplification by John R. Mohler, A. M., V. M. D., Chief of the Pathological Division, and Adolph Eichhorn, D. V. S., Assistant in Pathology and Bacteriology, Pathological Division, of the United States Bureau of Animal Industry, of the second edition of the Text Book by Medical Counsellor Richard Edelmann, Ph. D., Royal State Veterinarian of Saxony, etc. 402 pages, 157 illustrations, 8 colored plates. Howard & Co., Washington, D. C. 1908.

To those interested in the many-sided subject of meat hygiene, the publication of this book has opened wide the doors to fields where hitherto we could only gain our knowledge from the gleanings of personal experience. Previous to passage by the Congress of the United States of the Act of June 30, 1906, which is generally known as the Meat Inspection Law, a veterinarian employed by the Bureau of Animal Industry in abattoir inspection was required to be an expert upon the antemortem and postmortem characteristics of the various diseases of the food producing animals. Immediately after the passage of this act, the veterinarian was called upon to fill a field which not only required expert knowledge of the diseases of animals, but also of the preparation of the numerous meat-food products, together with the possible changes which might occur, not only during the process of manufacture, but until the time of consumption. The care of waste products, sanitary problems, abattoir construction, and refrigeration, all demanded expert supervision. This sudden call by the Government for a change in the mental equipment of its men found our veterinary graduates, as well as our colleges, unprepared to cope with this new diversified field. What was probably the greatest difficulty which had to be surmounted was the fact that in the English language there was not a book which fulfilled the demands as a guide. Doctors Mohler and Eichhorn, realizing this need, found that in 1907 Richard Edelmann published a second edition in German of his text book on "Meat Hygiene." This work contained the desired material in concise detail with a precision characteristic of the German scientist. And so, with the permission of the author, they undertook the task of translating his book into English for the benefit of our American veterinary profession, and through them, of the general public, at the

same time adapting its statements to conditions in the United States, including the regulations covering the entire inspection work as issued during the present year by the United States Department of Agriculture, and further amplifying it where, in their judgment from experience and exhaustive investigations in both the packing house and laboratory, they deemed it desirable. As a result, we now have accessible a text book of Meat Hygiene which will enable our colleges to thoroughly prepare students for the broad field which they must occupy, and will give to those already in the service of the Government as well as the general practitioner an opportunity to materially add to the knowledge which they have gained in the school of experience at the great meat-packing centres of this country.

After carefully surveying the four hundred pages of this book, a person cannot help but appreciate the thoroughness with which it treats of the origin and source of meat food; morphology and chemistry of the principle tissues, including the peculiarities of meat of all varieties of animals from which we derive our food; the production, preparation, and conservation of meat, and abnormal conditions, postmortem changes, and diseases of animals. Special chapters are devoted to the Federal regulations; the construction and management of abattoirs and stockyards, the history of meat hygiene in Europe, the United States, and in Canada. Throughout, there are interspersed excellent illustrations.

In the opinion of the REVIEW, this new publication on meat hygiene, by our esteemed professional brethren, filling, as it does, a great need, is already assured of success, and should receive the profession's best support.

THE ALLEVIATION OF SUFFERING.—The work of helping others in the terrible Italian catastrophe has so softened the sensibilities of the soldiers and sailors who largely compose the search parties that many incidents of tenderness to animals are related. A company of pioneers, attracted by weak groans beneath a pile of ruins in a cellar, began feverishly to remove the debris.

The groans continued while the soldiers worked for an hour to reach a corner of the cellar from whence they came. They presently found the victim, but it was only a donkey, which, however, the soldiers carefully lifted out and took to the barracks, where every care was lavished upon him.

CORRESPONDENCE.

CONFERENCE OF VETERINARIANS.

UTICA, N. Y., January 16, 1909.

EDITORS AMERICAN VETERINARY REVIEW:

The following are some notes I took at the conference at Ithaca for the REVIEW, January 12-13, 1909. There were 75 present; a general good feeling prevailed. Enclosed find program. Papers were fine and well discussed. President Schurman's remarks were fine. He complimented Dr. Moore; he mentioned the needs of the profession. The "smoker" was excellent; it was under the supervision of the students; college yells and songs prevailed.

Dr. Williams' new surgery is a model; the recovery stall is something grand; it must be seen to comprehend its usefulness. Dr. Williams gave a surgical clinic.

The case of granular venereal disease of cow was very interesting and brought out some very good remarks. First time recognized in this country, so far as Dr. Williams knows.

V. M. A. of N. Y. City was well represented; as was Buffalo.

Commissioner Pearson stopped our train and made few remarks; his ambition is to have an ideal veterinary service connected with his department; wishes to have a closer relation between the veterinarian and agriculturist; veterinarians for expert work; complimented the veterinarians, commended the department in regard to its control of foot-and-mouth disease; he is loyal to our profession; he mentioned that there was likely to be some legislation in regard to meat and dairy inspection, and the veterinarian would be prominently connected with the same.

Dr. Berns, at the close of the conference, moved a hearty vote of thanks to Dr. Moore, faculty and students for the excellent time given us, which was received heartily, and also proposed that it be made a yearly affair, which was also received with cheers.

Yours respectfully,

W. G. HOLLINGWORTH.

SOCIETY MEETINGS.

ILLINOIS STATE VETERINARY MEDICAL ASSOCIATION.

The 26th annual meeting was held at Lexington Hotel, Chicago, Ill., December 1, 1908, with the President, Dr. C. C. Mills, in the chair. Minutes of previous meeting were read and approved. Seventeen new members were elected.

President Mills' annual address was one of the most masterly and interesting addresses ever delivered before the Association, and is as follows:

PRESIDENT'S ANNUAL ADDRESS.

GENTLEMEN AND FELLOW PRACTITIONERS—It is with no slight degree of pleasure that I offer a word of greeting to the members, old and new, and to the visitors at this the twenty-sixth annual meeting of the Illinois State Veterinary Medical Association. Certainly no more auspicious time could be found for such a gathering than during the splendid exhibition of live stock in the International Show at the gateway to the greatest live-stock centre of the world, the Union Stock Yards of Chicago. Occasionally we view this vast array of animals with little real comprehension of what it has cost to bring all this before our eyes, whether we view the live-stock in the magnificent buildings and the grand show-ring or whether we attempt to draw our lesson from the yard or the slaughter house with their thousands of animals for the packer, we do not see the real story of what it has taken to place them there. Our perception can partially include the cost of feeding and maturing, of losses and reverses which must be counted in endless succession for completed events and unerring calculations.

OUR PART AS SANITARIANS.

It may well be then of no small satisfaction and of no small import that we come together in these conventions as sanitarians and administrators to the health of the individuals comprising so wide and so varied an industry. We gather here to exchange views and discuss methods whereby the health of live-

stock may be preserved, diseases better combated and, let us hope, some of the scourges finally completely eliminated. Of no small magnitude is the task which the conscientious sanitarian of the present day has before him. Our part as veterinarians of Illinois appears with importance when we realize the fact that our own commonwealth leads all others in the number of horses owned in the state and in the aggregate valuation also. According to data furnished by the Department of Agriculture, Illinois has nearly 1,600,000 horses with a valuation of more than 170,000,000 dollars. Add to this the valuation of all other kinds of live-stock and their products and a glance will show an immense industry. Whether we confine ourselves to that narrower view and measure the benefits by dollars and cents alone; or, greater and much more philanthropic yet, if we help as we certainly must do to guard the health of our own race and the safety of every family within our borders: the necessity grows more prominent. Without question the conditions demand a more systematic method of sanitation persistently but rationally applied so that a broad minded public must take notice and support and supplement the efforts toward an ultimate benefit to all although a temporary inconvenience to some.

OUR POLITICAL INFLUENCE.

So long as our government is controlled largely through the influence of political parties, just so long will needed legislation be dependent upon the favorable attitude of an administration in power. Or on the other hand, hampered or annulled by an unfavorable attitude. Our association is in no sense any part of a political party organization nor should it be tempted into any schemes to arbitrarily try to change the honest political views of its members. Our membership will always hold diverse views according to our ways of looking at things and we have no inherent right to dictate, nor any inclination to compel any member to follow other than his own conscientious political conclusions. But it is entirely within the province of an organization of this kind to take notice of, and commend a state administration which has given more personal encouragement to the efforts put forth for the live-stock interests of the state than any other in our history. This favorable attitude stands out in bold contrast to that of some former administrations wherein the disposition seemed to be to belittle the veterinary profession, expose the live-stock industry to unnecessary dan-

gers, and through this indifference to humiliate the state in the eyes of our sister Commonwealths. The veterinary profession is to be congratulated that we have an interested Governor, an energetic, active State Board of Live Stock Commissioners, and a qualified broad minded and competent State Veterinarian who is a member with us. All of these evidently are not afraid to take the initiative for the best interests of the whole state.

In this spirit the commendatory resolution was passed at our mid-summer meeting at Galesburg and recent results have caused us to be more sanguine that the foundation which has already been laid for a better condition of things will now mature uninterrupted. We believe that results will justify our trust and make a showing in the history of live-stock and veterinary sanitation in the state commensurate with the importance and advancement of the industry. Progress may seem slow. Criticisms are easy to make and multitudinous. I hope however, and in large part believe, that we as veterinarians will be found level-headed enough to refrain from diminishing our chances by too early and severe criticism of the progress made. Let us be unbiased enough to ask ourselves the question whether or not we have individually given to the State Veterinarian, the State Board, and to the Governor as much assistance and support as they have given to us, as a profession. We will thwart our own aims if we selfishly ask too much for our few hundred veterinarians alone without adequately considering the welfare of the animal husbandry of the whole state. We must have behind our claims the proof of the greatest permanent benefit to the greatest number, either directly or indirectly, of those connected with this state-wide industry. It is the duty of a public servant to consider matters thus broadly. It is obviously our profession, individual and combined duty to work for and uphold law in no narrower or more selfish way than this. Whatever in the end is best for the live-stock interests is beyond question the very thing which at the finish is best for the veterinary practitioner.

OUR VETERINARY PRACTICE ACT.

Our present law regulating veterinary practice has been upon our statutes for more than nine years. While it is evidently not all that the state deserves yet in localities where state's at-

torneys have energetically and conscientiously pushed the prosecution of offenders on evidence furnished by our members, very satisfactory results have followed. Judges of county and circuit courts also seem to generally recognize the necessity and feasibility of the enforcement of such a law. In some counties where the state's official is too anxious to preserve friendship or votes or is otherwise incapable or unworthy of the trust imposed in him the law becomes somewhat of a farce. This gives some ground for discontent and embarrassment, but even where this is true, no qualified practitioner should fail to comply fully and cheerfully with the law as we have it, because the law does not do all that we could hope for, gives no pretext whatever for violating or neglecting any of its provisions. Quietly and tactfully rather the part of the veterinarian should be to help along the education of the public minds until they can see clearly and forcefully their own personal benefit and protection, then the influence will easily come that will make for results to our liking. We need our law amended. Public safety will before long demand it. The law will appeal to popular favor in the last analysis is the one which comes in response to strong public sentiment. With this aroused, the demand does not look like a special favor law for a limited class. Public sentiment and educational influences need right now to be brought up a little stronger. I believe therefore that we can safely leave the matter of amendment of our law to a carefully selected legislative committee who can thoroughly investigate conditions and act so that we may not lose ground at least and take a step forward where the step seems sure.

Turning to another phase of this topic, let me here emphasize the fact that *no law*, however good or how nearly perfect, will make me a success as a practitioner. If after spending my time and money in obtaining a diploma my equipment is not sufficient to compete with the unqualified irresponsible practitioner by hard work and persistent devotion to business, then I am in poor form and in bad grace to claim added protection by law. Our chief asset and strongest objective on this side of the argument is to be found in banding together here men of such strong worth and excellent scientific and practical qualifications as will succeed without the law; as will practice down empiricism; and who can and will prove the worth of scientific principles as against demagogism.

STATE AND MUNICIPAL REGULATIONS AND CIVIL SERVICE APPOINTMENTS.

A favorable sign of advancement within our state is seen in the comparatively new order of things which makes it now incumbent upon applicant for a position where the services of a veterinarian are required, for such applicant to be a graduate of a recognized veterinary college. This alone is having a strong tendency toward removing the stain of disrepute as viewed by many of the veterinary and live-stock boards of our neighboring states. It is a distinct step in advance but not looked upon with political favor by that class of practitioners of the empirical school. The co-operation of some cattle and dairy men looking toward the eradication of tuberculosis from their herds is a most favorable sign of the times. With a little more of this sentiment and a sufficient appropriation to develop a working plan an incalculable amount of good can be accomplished. The recent added regulations concerning tuberculous animals is we hope a promise of the sane crusade against this widespread plague amongst herds of cattle and swine. The recent developments for successful immunization against hog cholera and also against tuberculosis are of a most encouraging nature and open wide a fruitful field for the veterinarian, physician and bacteriologist. Encouraging also, we hope, are the passage of municipal meat, dairy and milk inspection laws in various parts of the state. They seem to be of a reassuring type if not all that could be desired. Good live veterinary physicians on these municipal sanitary and inspection boards do and will add much to their efficiency. Already this has been done with excellent results in certain places according to indirect information.

The rules laid down by the Bureau of Animal Industry for the standard of education of applicants for veterinary positions in the department are certainly largely commendable. A government, state or national, cannot maintain or develop a high standard of efficiency in any department with an unscrupulous and inefficient personnel. There must be something by which a standard can be measurably maintained. The day of the veterinary specialist is dawning in the field of this higher and more exacting work of educational research and effective sanitation. The field practitioner, though an undoubted success in his line, might be a dismal failure as a laboratory investigator or scientific instructor and vice versa. Each, alike, can take the neces-

sary course side by side and receive a diploma for the same work done in a recognized veterinary college. The one will find his opportunity in general practice and the other in government work as a specialist or an inspector. If our erstwhile acquaintance, "John Smith," chooses to apply for a responsible position in the government service it should be no hardship for him to take the competitive examination and thereby not only prove that he has the equipment for a special position in a measure; but by this act he supports a law or a rule which safeguards the encroachment of undesirables and elevates the standard of work done by himself and his associates. If "John Smith" or any of us as his brother practitioners are equipped for the work contemplated, then the civil service examination can have no terrors for him or for us. Do I say too much when I declare that if lacking in equipment we have but little if any more right to favor than he who, with energy and push, secures a short course diploma or develops a broad knowledge of the profession untutored, by years of reading, research, and experience? What is quackery if it be not demanding position or recognition on presumption without proof? What is real professionalism if it is not ready to *give* the proof?

VETERINARY EDUCATION—THE STATE SCHOOL.

The field for veterinary education is becoming wider and more scientifically practical. The opportunity for experimentation and research is unlimited. Largely it is restricted only by a matter of dollars and cents. The benefit of practical experimental results are is at least state-wide. They cannot well be carried on to any extent by any individual single handed. Private institutions even of a high order cannot be expected to spend heavily on experimental work unless largely endowed. We have a great state institution and we point with pride to the University of Illinois in many or most of its departments. But when we study the history, equipment and growth of the Veterinary Department we find that it always has been and still is seriously wanting in equipment and appropriation. A grand old man, a venerable and highly respected practitioner, has struggled there for years to make even this little showing in the general education of the agricultural student and in semi-private veterinary education. No special appropriation, nor opportunity for valuable experimental work, and but little encouragement from the public, were the incentives he received to spur him on to added

zeal. Few instructors would have been so faithful and there is no word of censure to be written about our respected fellow member. The shame is upon our great state for this long neglect of so important a branch of the agricultural interests. Several states have already led off before us and set a valuable precedent. It is worthy of note that those states which have best improved the veterinary departments of their state universities have obtained better veterinary practice laws. We cannot stay much longer so far in the back ground. Our state and our state university are worthy of a veterinary department that stands in the forefront. A recent press notice pertaining to the co-operation of our agricultural college with that of the University of Wisconsin is an added evidence of plans maturing in recent months for a transformation. But we must be careful that we avoid some palpable errors which others have made. The Governor and his aides, the President of the U. of I., the Dean of the Agricultural College, the packers and allied interests of the Union Stock Yards; have all seen this great need. The live stock producer and the veterinarian will be directly affected by the development and working out of the plan to establish a real veterinary college as a part of the U. of I. Likewise, indirectly the packer and consumer will receive benefit without measure. Certainly no more commendable move could be made. It behooves us to lend all moral support possible toward the realization of this plan. Its development will largely be in proportion to the public sentiment demanding it. I am inclined to believe that this association has been derelict in its duty in not using available means toward the encouragement of such a move long ago. Efforts thus directed would have interested a greater number outside our profession. We may now need to tarry this feature is brought to par before we get needed enactments which now the general public would consider semi-class legislation.

Special and experimental work is much needed by the state. With a properly equipped and adequate teaching staff in a state veterinary school this association could work harmoniously in furnishing data and subjects and specimens from the field. Then a committee on intelligence and education and another on Contagious and Infectious Diseases might well form the connecting link between this body and the college itself. Regardless of individual school, our alma mater, or other affiliations, we should lose no opportunity to put in a good word for such a cause. If there be any avenues open to help elevate our profession and increase its usefulness let us be found to be lifting all together.

We do not need too many schools but we do need a readjustment of our system suitable to the time and conditions. The private schools are to be commended, even praised, for the work they have done and are doing. To them, largely, the credit for making the profession what it is must be given. Certainly they are entitled to and will receive consideration. That they have succeeded so well, maintained a creditable standard through an extended period of depression a few years since, and come forward rapidly again with improvements; increased faculty in numbers and qualifications; extended curricula and lengthened terms; and yet with overflowing class rooms must be a gratification to them. That there is some element of danger in the transformation of these schools by the instructors or the strongest advocates themselves. This association has a right, yes, it has a duty to perform in the matter of educational institutions. It should assist in the maintainance of the highest proficiency consistent with the demands of the day, the urgent needs of the state, and the requirements of the government. I would not stifle college loyalty and college spirit and fraternalism. But when we become practitioners our fellowship should be without limit and not narrowed by the confines of any college walls. As an association all recognized and reputable schools should receive like recognition if our by-laws admit their graduates to membership with us. For the success of the association in its broadest sense, the best of harmony without school or faculty animosity must prevail. I am pleased to believe that this association can be so conducted as to lend its influence to the highest educational aims without alienating any fair minded alumnus or depriving ourselves of the usefulness of any faculty. If it is in good order according to the recommendation of the "College Commission" to the Department of Agriculture that no more than three or four graduates from any one college shall hold a position on the faculty of a particular school, then it is obvious that no school whatever should control or bias the acts of an association of the states' veterinarians. What must be said of such prominent instructors who hold aloof from giving us their help?

We have some need of caution that our state association set a good example along ethical lines. Indeed it has been suggested, (and I believe the idea has merit in it), that were a chair on Ethics established in our veterinary colleges it would tend very favorably to place before our profession something beyond the narrow commercial side of our business. It would add im-

petus to the much needed fraternalism and mutual friendship and effort of not only our city veterinary physicians but our local country practitioners as well. If we want to accomplish something, though we have differences, let us pull together toward proper ethics, better equipment, more scientific research and a higher standard of educated men.

THE A. V. M. A. AND THE CONGRESS ON TUBERCULOSIS.

The recent meeting of the A. V. M. A. and The Congress on Tuberculosis are worthy of special mention. Each was a great success and both have left their stamp not only upon literature and science but upon the intelligent practitioner and the general public as well. The authorities who there gave voice to their beliefs based upon a decade or more of careful research will be quoted for years to come. It is pleasing to find that among other good things promised by our program, we are to have some of the echoes of that notable Congress presented here. Illinois was well represented at the American Veterinary Medical Association especially and we are certain that many points of interest can be presented by those who were so fortunate as to be in attendance, as our meeting progresses. The able presentation of various phases of veterinary education and upon the progress of immunization against diseases is alone very attractive and it would certainly seem that no veterinarian's library would be complete without a copy of the proceedings.

THE A. V. M. A. FOR ILLINOIS.

Much good must come from such meetings as these wherever held and it is therefore with the utmost satisfaction that we note the coming of the American Veterinary Medical Association to our own State of Illinois and to our own western metropolis in September of 1909. Even at this hour we can commend the good judgment and acts of our fellow members who secured the meeting for Chicago. It is of no small import to the veterinary educational and sanitary interests of the state to have this great meeting brought here. Commensurate with the importance of this American convention therefore I feel assured that our state association will rise to the occasion nobly and at once take the necessary steps for arrangements and entertainment as a gracious host to an honored guest. I propose the rallying call "Gather at Chicago in 1909" be sounded to every veterinarian of the state. Our state is great; her people are re-

sourceful: and let us prove that her veterinarians are hospitable. A committee of representative veterinarians should be appointed to act in conjunction with a committee of the Chicago Veterinary Society in working out the details of arrangements and perfect the plans for entertainment. Funds will be needed and should be furnished adequate for the occasion either by appropriation or subscription, or both. This is not all,—a special crusade should be made to increase our own membership between now and the mid-summer meeting. All our veterinarians from one end of the state to the other should begin now to plan to "Gather at Chicago" next September and aid in tendering a rousing reception to the visitors, make felt the greatness of Illinois and the Mississippi valley, and, withal, insure this 1909 Chicago convention to be the greatest meeting of veterinarians in history.

MEMBERS' DUTY TO OUR SECRETARY AND OUR ASSOCIATION.

A word might be dropped as to our duty as conscientious, active members of our profession and our association. We see the commercial side of our profession very strongly. Very naturally we measure our success by the financial remuneration that it brings us. We would rather take a good case from a good client than to write, read and defend a paper before our association. I sympathize with this feeling. It has a deep hold upon me and what I say is said in the kindest feeling but with conviction. The position of Secretary of such an organization as this could be made much easier and fuller of results if better cooperation were promptly given. Upon the Secretary must fall the greater part of the responsibility for the success or failure of our association. The work of securing a program while theoretically resting with others yet, as a matter of fact, devolves largely upon him. He knows that he appeals to busy men when he writes to one of us for a contribution to the program. But as business men we owe him a reply. And as observing professional men, I speak with emphasis when I say that in vastly more instances the answer should go back to our Secretary, "We'll try." I assert with confidence that few of our practitioners have not opportunities which open up in their field for special observations and perhaps specific medication and surgical interference well worthy of record. A successful man will make mental observations from these chances and make deductions even if they be not altogether right. I appeal to your good sense again to

inquire if you are not standing in your own light if you do not attempt to formulate those ideas and strengthen or prove them by inviting honest discussion with honorable co-laborators in likewise fruitful fields. No man ever read a live paper before an association of this kind but that he received even more help from it perhaps than any one man could impart, or any one listener could corroborate from personal experience. Inexcusable as it may seem, I have known competent veterinarians to refrain from joining this association for fear of being asked to read a paper. Others pass up the Secretary's invitation with the thought that there is always plenty on the program anyhow. But the Secretary only knows how much work it takes to get it there. Others simply know that "they are the busiest men on earth" and consign the Secretary's entreaty to the waste basket at once. Gentlemen, did you ever stop to think what an intensely practical meeting we would have if all our papers were prepared by men who have nothing to do? Men who have achieved anything have been and are busy men. When there was nothing else to do they kept busy investigating and developing. With the vast fields for investigation we have no excuse for not settling a few things in our own minds at least. The undoubted importance of parasites in the animal body and the role they play in the development and complications if not the cause of many diseases in the alimentary tract, the blood, or in the animal tissues; the growing importance of protoplasm in its relation to the development or even to the existence of pathological conditions; and endless array of ptomains with their oftentimes disastrous and peculiar effects: will alone cause the progressive veterinarian to be alert and somewhat definite in his conclusions. I think there is ample reason to expect that he shall also become reminiscent and contributory.

DANGERS FROM CONTAGIOUS DISEASES.

No unusual outbreak of diseases of a contagious character have prevailed within our state during the past year. Little by little added precautions are being taken to prevent the coming of such dangerous diseases within our borders. However, there are contagious affections which are more or less always with us, of an aggravating and perplexing nature, which call for the alertness of every veterinarian and the vigilance of the state authorities.

The lesson taught by the present serious outbreak of "foot-and mouth disease" in Pennsylvania, New York and at certain points in some other states, is that of eternal vigilance on the part of every federal and state inspector or sanitarian, as well as that of the private veterinary physician and the stock raiser himself. The heavy cost and the loss in stamping out such an outbreak would pay for vigilant preventive measures for years to come. At whatever cost, it must be stamped out.

OUR GROWTH AND RECOGNITION.

In conclusion I only wish to add that these prosperous years for the veterinarian should awaken a new zeal for our state association. The past year has been one of satisfactory results although no apparently great opportunity has arisen for special effort on the part of the officers and committees. The added membership is a source of gratification. It is a good healthy growth but individual and collective effort will bring in a larger proportion of eligibles. We earnestly invite all who are present and not members to become so. But we would not have you understand in any sense that you are not welcome as visitors, and as such you are free to join in the discussion of papers and general topics.

I have had no thought in this address of extolling the achievements of the veterinarian in the past perhaps as much as might be expected. They have been given due importance at each succeeding meeting. I have no eloquent words to depict our profession as having done any more than our full duty in the past. If we are not a helper we have no right to existence. I do not, however, belittle the accomplishments of our calling nor trample on its achievements through hardship and hazard and the sacrifice of life. I take off my hat to the man who will stay by a complicated, interesting, though hopeless case and watch it through the long hours of the night, and do his best while he has the case even though there may not be a visible dollar of compensation in it. I honor as I would a martyr the man who courageously works in his laboratory over virulent germs, in order that scientific discovery may profit by his labors. I would speak the word of commendation for our greater lights in our profession or any other wherein the individual's life work is directed toward the amelioration of suffering either in animal or man,—or through the study and knowledge of the one, to yield benefit to the other. While I admit that what the veterinarian

has done has often been poorly appreciated and supported by the public, yet it has always been so and we have no time to worry over loss of recognition or respect withheld. We have no inclination to stop even that older profession in medicine and *the one* which should be the very first to realize the direct importance of our profession, is often one of the gravest offenders. If you as an employer lose confidence in me, rightly or wrongly, as an employee, I cannot inspire even a resemblance of confidence in you by appealing to force or to law or to abuse. Before you will really believe that I am worthy I will have to prove it twice over. Little by little I can inspire trust as I show my determination. The veterinary profession has within the memory of some of our older clients come up from a rather low estate. To the personal knowledge of many in the profession, the "coming up" has been by long strides. We are proud of the advancement made and glad for the brilliant minds who are planting their thoughts and bestowing their energies so capably and so fearlessly. We see more and more recognition given to the worthy and untiring exponents of our branch of the medical profession. Upon *our merits* the future of the veterinary profession will be judged by the public, and quackery, fakery and the remnants of superstition will be banished in proportion.

The address was highly complimented by Jonathan Periam who is now in his 86th year. Mr. Periam has been editor of the *Prairie Farmer* for possibly the last half century. He has been before the veterinary classes in Chicago for the past twenty-five years as an instructor in hygiene and breeding. He stated that the veterinarian must depend upon his knowledge in making a diagnosis while the physician of human medicine could depend a great deal upon his patient.

The noon hour having arrived the meeting was adjourned for lunch.

Reconvened at 1:30 p. m. Dr. Duncan McKenzie was called upon to read his paper entitled "Glanders." The paper was short but covered much interesting ground. He does not think that the Agglutination test is more reliable than the Mallein test.

The paper brought forth much discussion pro and con but no argument was produced to satisfactorily disprove the doctor's assertion. He stated that some seemed to think that Mallein was a curative agent in some cases on account of the animal failing to react after a number of injections. Mr. Periam

would advise that all animals that react to the Mallein test should be destroyed for it had been proven that animals that were thought to have been cured were still competent to distribute the disease to other animals. Dr. Tiffany stated that some horses reacted every sixty days over a period of eight months and then failed to react. Dr. McKenzie and Dr. Tiffany each advised that no animal should be tested when abnormal or irregular temperature is present, but all other exposed animals should be tested. Dr. Glendenning, Dr. Quitman, Dr. Way took part in the discussion. Dr. Way was associated with Dr. Berns, of Brooklyn, New York, who was the original investigator of the Agglutination test which was applied to about three thousand head of horses in all stages of the disease. Dr. Way considers the method quite accurate. Dr. S. S. Stewart, President of the Kansas City Veterinary College, made a few very interesting remarks upon the subject.

It was then announced that P. S. Haner, Chairman of the State Board of Live Stock Commissioners, Mr. A. W. Sale, H. J. Beer, also members of the board, were present in the room. Mr. Haner was called to address the association. His remarks were highly appreciated by every veterinarian present. He said that he was a farmer and stock raiser and that he had the interests of the stock raiser at heart, that the Board is making every effort in its power to enhance the stock raising industry of our state and that it is the intention of the Governor and the Board to urge upon the Legislature a law that would protect the stock raisers and also for the prevention and eradication of contagious diseases among animals. He also urges that quarantine laws be enacted whereby we may be able to quarantine against other states to prevent the shipping of animals into our state unless they are accompanied by a certificate that they are free from any contagious disease. Every one joined in a hearty applaud to Mr. Haner's address.

Dr. James M. Wright, State Veterinarian, was called to the floor and addressed the assembly upon the subject "Hog Cholera." He described the success of the Government serums. The method has proven to be very successful when the serums are carefully and properly prepared. He recommended that special laboratories be established by the state for the manufacture of the serum. He advised that the serums be administered only by competent veterinarians. The stock raising industry is a large part of the wealth of our great state and the stock raiser

should be grateful that we have a State Board of Live Stock Commissioners and a State Veterinarian who are so interested in their welfare.

Dr. Geo. B. Jones' paper, "Pleurisy or Pleuritis," was very interesting and thoroughly discussed. The doctor is a firm advocate of paracentesis thoracis as soon as hydrothorax is known to be present. He exhibited a specimen of fluid drawn from the lung cavity containing considerable pus. He reported complete recovery of the animal.

Dr. Joseph Hughes in a few eloquent words presented the name of Dr. D. Arthur Hughes to become an honorary member of the Association. Dr. D. Arthur Hughes was elected by an unanimous vote.

Dr. D. Arthur Hughes then read his paper upon the subject, "Dr. Robert Koch and His Critics at the International Congress on Tuberculosis, Washington, D. C." The paper was most interesting and was handled in a manner that probably no one could surpass. Every one present gave the closest attention to every detail of the Doctor's paper. Comment is unnecessary for the veterinarians know the ability of Dr. Hughes.

Meeting adjourned to meet in the banquet room at 8 o'clock at the Lexington Hotel.

At 8 o'clock the banqueters assembled around the banquet tables seventy partaking of the very elaborate menu. Dr. James Robertson, of Chicago, acted as toastmaster. He is known to be one of those very pleasing speakers and a jolly good fellow which meant that a very pleasant evening was in store for those assembled. The usual customary responses to toasts were done away with and various members were called upon for extemporaneous speeches.

First Dr. S. S. Stewart made a few very pleasing remarks eulogizing the veterinary profession. He was one of the original organizers of the Iowa Veterinary Association. He stated that he had met in many banquet halls of other kinds of professions and occupations but none so orderly as those of the veterinary profession.

Dr. Way, of Cornell University, did justice to the profession in a few well chosen remarks.

Dr. Brownlee, President of the Mississippi Valley Association, created considerable laughter which he is always capable of doing.

He was followed by pleasant speeches from Drs. Welch, Martin, Nattress, Wright, C. A. White, Glendenning, L. A. Merillat, Chamberlain, A. H. Baker, J. F. Ryan, Walker, and last but not least, S. S. Baker.

The banquet was voted a success and every one agreed that the evening had been pleasantly spent.

DECEMBER 2, 1908.

Meeting called to order by the President, Dr. Mills.

Dr. J. E. Gillispie read a paper on Fistula, and cited a peculiar case of fistula in the flank of a cow.

Dr. A. H. Baker presented a report from Dr. Alexander, of the Wisconsin Agricultural College, a case of "Johnes" disease in the cow. He also presented a pathological specimen taken from the intestine of a cow that had died with the disease. Every one present appreciated the value of this report and on account of the specimen being presented it made it of still more value familiarizing everyone who saw it with the conditions produced by the disease and where to look for the trouble in post mortem examinations. No treatment was suggested and the disease is not supposed to be contagious.

Dr. L. A. Merillat's subject was "A Few Suggestions in Surgery." He stated that no one could be a good surgeon unless he possessed inventive genius and practical ability. In all cases of surgery whether minor or major that strict attention should be given to every detail in the preparation for all operations; that strict and careful observance of all stages of the operation should be made. Plenty of all essential equipment should be possessed by the surgeon. He should have a hospital. Shun barn yard operations and educate your clients to bring their cases to your hospital. Your successes will be ten fold better and your clients will be better pleased. Caution of diagnosis should be more careful than in medical cases. The doctor's remarks made an impression upon all those present that will be of much value to them.

Dr. J. J. Miller presented a paper on "Rabies" which created animated discussion on account of the doctor seeming to coincide with the belief that some others have expressed that there is no such disease as rabies. Drs. S. S. Stewart, L. A. Merillat, Worms, A. H. Baker, S. S. Baker, Martin and White expressed themselves as believing such a disease does exist and they do not see where any argument or real facts can be pro-

duced to prove that it does not exist. Dr. Dinwiddie, of the Agricultural College of Arkansas, made a few remarks coinciding somewhat with the essayist. Dr. Miller does not think that the negri bodies are of very great diagnostic value. He has found negri bodies in dogs that had no symptoms of rabies. Dr. Way believes that the negri bodies are of much diagnostic value.

Dr. Morgan not being present, his paper "Hemorrhagic Septicemia" was read by the President, Dr. Mills. The paper described the disease quite fully and interesting remarks were made upon the disease by Drs. S. S. Stewart, Brownlee, and Wright gave the diagnostic difference between it and anthrax.

Dr. Stewart made a few remarks upon Dr. Merillat's paper on Surgery. He stated that antiseptics were not used in human surgery as they used to be after operations, all antiseptic precautions being taken before the operation and sterilized water only after. He cited a case of appendicitis in the human where pus was found in the abdominal cavity and only sterilized water used after the operation, the patient making a nice recovery.

Dr. Baker moved, seconded by Dr. Wilson, to suspend the rules and proceed to the election of officers. Dr. A. H. Baker nominated Dr. N. I. Stringer for President. No other nominations being made Dr. Stringer was elected by acclamation.

Dr. C. G. Glendenning nominated by Dr. Walker for Vice-President. Dr. Glendenning was elected by acclamation.

Dr. J. H. Crawford was nominated by Dr. Welch for Secretary. Elected by acclamation.

Dr. Merillat nominated the present incumbent, Dr. Walker, for Treasurer. Elected by acclamation.

Board of Censors—Nominations, Dr. W. H. McEvers, Dr. J. F. Gillispie, Dr. Fred W. Godsall, Dr. H. D. Chamberlain. The ballot was spread. Drs. McEvers, Gillispie, Godsall receiving the highest number of votes were declared elected.

The President then appointed Dr. S. S. Baker, Dr. Smith, Dr. Martin Auditing Committee.

The following committees were then appointed by the President:

Committee on Program—Ex-officio, Dr. N. I. Stringer, Paxton; ex-officio, Dr. C. G. Glendenning, Clinton; ex-officio, Dr. J. H. Crawford, Harvard; Dr. A. W. Smith, Farmer City; Dr. Geo. P. Frost, 1340 E. Ravenswood Park, Chicago.

Committee on Arrangements—Ex-officio, Dr. C. G. Glendinning, Clinton; Dr. James Robertson, 334 E. 44th St., Chicago; Dr. W. H. Welch, Lexington.

Committee on Legislation—Dr. W. J. Martin, Kankakee; Dr. L. A. Merillat, 1827 Wabash Ave., Chicago; Dr. J. T. Nattress, Delavan.

Press Committee—Dr. C. A. White, 78 E. 26th St., Chicago; Dr. J. G. Blum, Bloomington; Dr. F. H. Ames, Mt. Sterling.

Moved by Dr. Welch that the next semi-annual meeting be held in Bloomington. Motion carried.

Moved and seconded that a vote of thanks be extended to the retiring officers. Motion carried.

Moved that a vote of thanks be extended to the hotel for their courteous treatment. Motion carried.

A discussion relative to the various ways of raising money to entertain the A. V. M. A. in September was entered into freely. Moved and seconded that an executive committee be appointed to act in conjunction with a similar committee to be appointed by the Chicago Veterinary Society for the purpose of raising funds and taking charge of all the details pertaining to the entertainment of the A. V. M. A. Motion carried.

Moved by Dr. Merillat, seconded by Dr. Walker, that the committee be composed of all the elective officers of the I. S. V. M. A. and the following named past Presidents: Drs. C. C. Mills, W. H. Welch, J. T. Nattress, S. S. Baker, M. Wilson, A. H. Baker, Jno. Ryan, H. A. Presler.

Moved and seconded that the Secretary be instructed to correspond with Dr. Lyman, Secretary of the A. V. M. A., and procure a sample page of the Secretary's book devised by him and to procure a book like it if possible.

Adjourned to meet in Bloomington at the call of the President.

N. I. STRINGER, Secretary.

CALIFORNIA STATE VETERINARY MEDICAL ASSOCIATION.

The annual meeting of the above association was held at Redmen's Hall, No. 240 Golden Gate Avenue, San Francisco, Cal., on December 9, 1908.

The meeting was called to order by the President, Dr. David F. Fox, of Sacramento.

Owing to the absence of the Secretary, Dr. Haring, the President appointed Dr. J. J. Hogarty to act as Secretary pro tem.

Roll call showed the presence of seventeen members and two visitors.

The minutes of the previous meeting were read and approved.

The Secretary's annual report was submitted and upon motion it was accepted and ordered placed on file.

The Treasurer, Dr. Betzold, submitted his report showing a balance in the treasury of \$63.65. The report was accepted and ordered placed on file.

Dr. Otis A. Longley, of Fresno, Chairman of the Committee on Judiciary and Prosecutions, submitted a report of the work done by his committee during the past year. In this connection Mr. Henry Hawson, attorney for the Prosecuting Committee, gave a detailed account of the legal steps taken to enforce the law regulating the practice of Veterinary Medicine in the State of California. He also explained the grounds upon which Judge Ogden had declared the law unconstitutional. At the close of Mr. Hawson's remarks the President complimented him very highly for the work he had done and the great interest he had taken in the Association's legal affairs.

The President then declared a short recess to permit the Prosecuting Committee to confer with Mr. Hawson regarding proposed amendments to the law, also to allow the Secretary to receive dues from members.

Upon reconvening the President called for a report from the Prosecuting Committee which was submitted by Mr. Hawson who submitted a report showing the necessity of eliminating certain objectionable features in the present law. He also submitted two amendments and suggested that the State Legislature be requested to pass same.

Upon motion duly seconded and carried the Prosecuting and Judiciary Committee was authorized and instructed to endeavor to have the said amendments passed by the Legislature.

Upon motion duly seconded and carried the report of the Prosecution and Judiciary Committee was accepted. Ordered placed on file and the Committee given further time.

Dr. P. H. Browning, chairman of the Committee appointed to draft a law for the registration of stallions, reported that very little had been done in that direction. Considerable discussion

followed regarding the necessity of registering stallions and the prevalence of venereal diseases among such animals in several sections of the state; following which the Committee was upon motion duly seconded and carried given further time.

An application for membership was read from A. John F. Bateman, of San Francisco. The same was referred to the Board of Examiners.

Nominations and election of officers for the ensuing year resulted as follows:

President—Dr. David F. Fox, Sacramento.

Vice-President—Dr. Otis A. Longley, Fresno.

Secretary—Dr. J. J. Hogarty, Oakland.

Treasurer—Dr. W. F. Betzold, Selma.

Board of Examiners—Drs. H. A. Spencer, Edw. J. Creely and David F. Fox.

The President reappointed the following as members of the Committee on Prosecution and Judiciary: Drs. Longley, Donnelly, Danielson, Megowan and Healey.

Dr. R. A. Archibald, of Oakland, gave an interesting report of his trip East giving in detail an account of the annual meeting of the American Veterinary Medical Association held in Philadelphia, the annual meeting of the Inter-State Association of Live Stock Sanitary Boards, held in Washington, D. C., and the International Congress on Tuberculosis, also held in Washington, D. C., which was greatly appreciated.

The subject matter of establishing municipal pasteurizing plants was brought up by Dr. Archibald who gave reasons showing that such institutions were inadvisable and dangerous in the extreme. The subject was discussed at some length by Drs. Megowan and Creely.

Dr. J. J. Hogarty, of Oakland, reported a surgical case encountered in his practice, that of a supernumerary ovary and fallopian tube in a bitch. Ovariectomy had been performed on the bitch when two ovaries and two fallopian tubes were removed. Later on the bitch became pregnant and gave birth to one pup which was followed by a prolapse of the uterus. A second operation was decided upon and a third ovary and fallopian tube were discovered and were removed together with the uterus. The bitch made a nice recovery. The speaker submitted the uterus and third fallopian tube and ovary and called attention to the two cicatrices where two fallopian tubes had been removed at the time of the original operation. He also stated that it was his practice in performing ovariectomy on

bitches to remove with the ovaries all the fallopian tubes and a small portion of the uterus above the bifurcation.

A lengthy discussion followed Dr. Hogarty's report in which nearly all present joined. The use of ether as an anaesthetic particularly in feline operations was brought up by Dr. Oscar J. Kron and Dr. Sorenson who claimed that cats took this anaesthetic very nicely. Drs. Sorenson, Fox and others seem to think that the operation of ovariectomy on cats where ether was used was as simple as the same operation on bitches. The only trouble so far as cats were concerned was getting the operation wound to heal.

Dr. Kron stated that his experience with the operation on cats was that it was almost sure death to operate in the East during the winter time. But no trouble was experienced during the warmer months.

Under the head of New Business Dr. Archibald moved that the Secretary be instructed to notify all members in arrears for dues that the same must be paid within six months or their names would be dropped from the roll of membership. The motion was duly seconded and carried.

Dr. C. L. Megowan made the claim that the Association was indebted to him to the amount of sixteen dollars. This was due to the fact that while Secretary of the Association some years ago he paid bills contracted by the Association. Upon motion duly seconded and carried Dr. Megowan was reimbursed by being credited with paying dues to the amount of \$16.00.

Upon motion duly seconded and carried the President was instructed to convey to Drs. Hogarty and Archibald the thanks of the Association for the entertainment furnished by them.

The President appointed the following as assayists for the next meeting: Drs. Archibald, Keane and Betzold.

Dr. Archibald moved that inasmuch as Dr. Betzold had failed to read a paper in the past notwithstanding the fact that his name had appeared on programs on numerous occasions and the further fact that the stallions in his vicinity were affected with a venereal disease simulating syphilis that he be requested to duly prepare a paper on this subject for next meeting. The motion was duly seconded and carried.

The President appointed Drs. Creely, Keane and Archibald a committee to arrange a program for the next meeting. After the transacting of routine business the meeting adjourned to meet at San Francisco on Wednesday, March 10, 1909.

J. J. HOGARTY, Secretary,

VETERINARY MEDICAL ASSOCIATION OF NEW JERSEY.

The twenty-fifth annual meeting of the association was held at the Trenton House, Trenton, on Thursday, January 14, 1909.

MEMBERS PRESENT.

The meeting was called to order at 10 A. M. President John B. Hopper occupied the chair and the following members answered to their names: Budd, Carter (R. W.), Christy, Conover, Glennon, Gray, Harker, Hopper (John B.), Horner, Hurley, King, Lindsay, Loblein, Lockwood, Lowe (J. Payne), Lowe (Wm. Herbert), Magill, Mathews (John P.), McDonough, Morehouse, Paulin, Read, Rogers (Thos. B.), Rowe, Smith (Thos. E.), Turner, Vander Roest. A number of visitors were also in attendance.

MINUTES APPROVED.

The minutes of the semi-annual meeting held at Newark, July 9-10 last, were read and approved.

PRESIDENT'S ADDRESS.

The President's address made it clear to his auditors that there existed in New Jersey, as there did in a number of other states, an urgent necessity for the establishment of an efficient veterinary sanitary service conducted along modern scientific lines in harmony with the federal laws. He pictured shocking slaughter house conditions as they actually existed in many places throughout the state and said that the only remedy was the licensing of abattoirs and the inauguration of an adequate state meat inspection service. The service should be under competent veterinary direction as it is at Washington. He explained the scope and limitations of the federal meat inspection system conducted by the Bureau of Animal Industry, U. S. Department of Agriculture.

The President stated that the officers of this association had taken the initiative in a movement to bring about the desired result in New Jersey. A conference between President E. B. Voorhees and Secretary Franklin Dye of the State Board of Agriculture and of the Commission on Tuberculosis in Animals on the one hand and of Dr. Bruce S. Keator, Secretary and Executive Officer of the State Board of Health, on the other hand,

together with Senator Gaunt, Master of the State Grange, and the representatives of our association had met at the State House in conference a few days since with the object in view of arriving at some sort of an agreement acceptable to all concerned whereby the best interests of the people of the state would be conserved. The President was not in a position at this time to state what the ultimate result of the conference would be, but he earnestly hoped that an agreement might be reached, for in union there is strength. He thought that if the people knew the real conditions and the consequent economic loss and grave danger to the human family by reason of lack of an efficient veterinary sanitary service that the requisite legislation would be forthcoming without delay and that ample appropriations would be made by the Legislature to accomplish the best results.

NEW MEMBERS ELECTED.

Edward L. Baldwin, D.V.S., 65 Avon place, Newark, and Henry J. Glennon, M.D.C., 109 Plane street, Newark, were proposed for membership. Both gentlemen had been duly licensed by the State Board of Veterinary Medical Examiners to practice in New Jersey. The applications were referred to the Executive Committee who reported favorably on both applications and the candidates were unanimously elected to membership.

REPORTS OF DELEGATES AND COMMITTEES.

Drs. Rowe and Loblein, delegates to the International Congress on Tuberculosis recently held at Washington, D. C., gave a comprehensive report of such features of the Congress of most interest to veterinarians.

Dr. Rogers, one of the delegates to the 45th annual meeting of the American Veterinary Medical Association at Philadelphia, told in an interesting manner of this great meeting.

Dr. Budd, a member of the Live Stock Commission, gave a graphic account of his trip to Europe and the purchase of Percheron and Clydesdale stallions for the State of New Jersey.

The Finance Committee reported that they had examined the books of the Secretary and Treasurer and had found them correct.

SECRETARY'S REPORT.

The Secretary presented his annual report reviewing the business of the association for the past year and offered certain recommendations for the advancement of the profession and the wel-

fare of the association. It was recommended that the 25th anniversary of the association be celebrated in a suitable manner at the semi-annual meeting next July.

The financial statement of the Secretary showed that he had on deposit in the bank at the last annual meeting \$110.75 and that his receipts for dues during the past year amounted to \$270.50, making a total of \$381.25. He had paid over to the Treasurer \$300, leaving in bank at opening of meeting \$81.25.

The Secretary's list of delinquents for the year numbered fourteen, owing the association \$154. The association lost two members by death, Dr. A. T. Sellers, of Camden, Vice-President, who died April 3, 1908, and Dr. Geo. O. Forsyth, of Pemberton, who died December 16, 1908.

TREASURER'S REPORT.

The Treasurer's annual report showed a balance of \$445.41 at time of last audit. \$351.04 have been received by him during the year, making a total of \$796.45. The disbursements made during the year amount to \$592.23, leaving a balance on deposit in the bank of \$204.22.

ELECTION OF OFFICERS.

The election of officers resulted as follows:

Dr. John B. Hopper, President, Ridgewood.

Dr. Thos. B. Rogers, 1st Vice-President, Woodbury.

Dr. Geo. F. Harker, 2d Vice-President, Trenton.

Dr. Thos. E. Smith, Treasurer, Jersey City.

Dr. Wm. Herbert Lowe, Secretary, Paterson.

READING OF PAPERS.

Dr. James McDonough read a paper on "The Injurious Effects of Three Calked Shoes Upon the Hock Joints of Horses" * which provoked an animated discussion on horseshoeing. A resolution was adopted providing for the appointment of a committee of three on the McDonough Horse Shoe. The President named as such committee Drs. McDonough, Loblein and Lindsay. The committee was empowered to spend a sum not to exceed \$50.

COMMITTEE ON NECROLOGY.

The President appointed Drs. Magill, Turner and Horner a committee to draft suitable obituary resolutions on the death of Dr. Geo. O. Forsyth.

* Published elsewhere in this number of the REVIEW.

ANNIVERSARY MEETING.

The association decided to celebrate the 25th anniversary of its organization in an appropriate manner at the semi-annual meeting, July 14-15, at Atlantic City. Upon motion, meeting adjourned.

WM. HERBERT LOWE, *Secretary*.

GEORGIA STATE VETERINARY ASSOCIATION.

The third annual winter meeting of this association convened in the Kimball House, Atlanta, Ga., at 7:30 p. m., December 22, 1908, with 12 members present, Dr. P. F. Bahnsen officiating as President and C. L. Willoughby as Secretary. Minutes of the last meeting were read, and the Executive Committee reported a favorable recommendation on the application for membership from Dr. L. L. Cheney, of Augusta, Ga., V. M. D., Univ. of Pa. 1899. Dr. Cheney was elected an active member, making the twentieth member in the two years of association work. The Publication Committee reported printing copies of new constitution and by-laws, with history of the association, and full list of members to date. The Finance Committee reported the accounts of the Treasurer to be correct and in good order, and a balance of \$45 on hand.

On taking up the literary program, the first paper was by Dr. W. E. Carnes, of Atlanta, on Dumb Rabies and Its Associates. Dr. Carnes related a case of diphtheretic black tongue in a dog which was examined by the Pasteur Institute, and Negri bodies found in the brain, and a rabbit inoculated with specimen died in fifteen days. The question was raised by Dr. Carnes whether all cases of similar black tongue may be a form of dumb rabies, and if so, whether it was likely to constitute a serious menace to human life. The matter was earnestly argued pro and con by the author and Drs. Anderson and Oliphant, and Drs. Jago and Jolly, resulting in bringing out some very helpful experiences. It was decided, in view of the recent agitation in Georgia on the matter of rabies, and the beginning of preventive treatment by the State Board of Health, that the Association could well afford to bend a large share of its energies during the coming year to this one problem. The Committee on

Diseases was urgently requested to give special attention to this subject during the year, and make inoculation tests, in cooperation with the proper authorities, to determine more facts.

Dr. C. R. Jolly, of Atlanta, gave a talk on the Examination of Horses for Soundness, and Dr. H. J. Schwartz, of Atlanta, read an interesting paper on the methods of treating large contused wounds.

Under the head of election of officers, the following were unanimously elected: Dr. W. E. Carnes, of Atlanta, who has been for two years Vice-President of the Association, was elected President.

Dr. J. H. Oliphant, of Augusta, was elected Vice-President.

Dr. Peter R. Bahnsen, of Americus, the retiring President, was elected as Secretary and Treasurer.

Resolution was unanimously adopted giving a vote of thanks to the retiring Secretary, Prof. C. L. Willoughby (who insisted on relinquishing the work on account of other duties) for the aid given in starting the Association and helping through the first two years of difficult work.

Motion was carried that Prof. Willoughby be reimbursed for traveling expenses attending meetings, and that the future traveling expenses of the new Secretary be paid from the Treasury.

The newly elected President, Dr. W. E. Carnes, now took the chair. A spirited discussion ensued concerning the date for the next annual meeting, November 16 and 17, 1909, being finally and mutually agreed upon. Dr. Jago suggested his home city, Athens, as the next Mecca for the Georgia veterinarians. Dr. Schwartz seconding his motion. Macon had been suggested, but withdrew from the race, and Athens was selected by unanimous vote.

President Carnes then announced the appointment of the following Committees:

Executive Committee—The Officers; Dr. W. A. Scott, Columbus, and Dr. C. R. Jolly, Atlanta.

Program and Publication Committee—The Secretary, Chairman; Dr. T. E. Jago, Athens, and Dr. L. L. Cheney, Augusta.

Committee on Diseases—Dr. H. J. Schwartz, Chairman, Atlanta; Dr. H. G. Carnes, Atlanta, and Dr. John R. Anderson, Macon.

Committee on Legislation—Dr. P. F. Bahnsen, Chairman, Americus; Dr. M. A. Morris, Savannah, and Dr. H. G. Carnes, Atlanta.

Finance Committee—Dr. J. R. Miller, Chairman, Gainesville; Dr. E. L. Fryer, Jr., Blakely, and Dr. A. C. Seacord, Atlanta.

Upon which the meeting formally adjourned.

The Veterinary Examining Board.

The day of the Association meeting and the day following were marked also by the first session of the new State Board of Veterinary Examiners, provided for by the Legislature in August, 1908. The Board formulated rules for its own government, passed upon some 20 applications for license to practice in the state, from graduates of approved veterinary colleges, and 7 or 8 applications coming under the provision of having practiced in the state for three previous years; and also examined two applicants in the subjects required by law. The Examining Board will publish in a short time a full report of its rules and proceedings.

C. L. WILLOUGHBY,
Ex-Secy., Ga. State Vety. Assn.

ONTARIO VETERINARY ASSOCIATION.

The annual meeting of the above association was held at the Ontario Veterinary College, Toronto, Canada, on Wednesday, December 23, 1908.

The President, Dr. O. H. Duncombe, V. S., was in the chair. After a few introductory remarks the Secretary, Treasurer and Auditor's reports were read and adopted.

The Secretary reported that bills had been brought before the Provincial Legislature to grant the title Veterinary Surgeon to unqualified men; and that several more such bills were contemplated, with the same object in view. In consequence of which a great deal of trouble and expense was incurred by interviewing members of the Legislature, and issuing circulars to graduates; also in getting legal assistance to oppose such preposterous legislation, with the result that the last application of this nature was so effectually quashed that it was believed it would completely discourage any more unqualified men from applying.

The following new members were then proposed and accepted: R. A. Byers, V. S., Woodville; J. M. Rice, V. S., Bobcaygeon; R. Riddle, V. S., Norwich; H. H. Ross, V. S., Burford; I. Christian, V. S. Drayton; H. A. Cotten, V. S. Milton.

Dr. Mole brought forward a motion that a committee be appointed in relation to endeavoring to get better legal protection for our profession, and a discussion ensued in which many members participated.

Dr. W. Cowan and others spoke against making any direct appeal to the Government just at the present time when important changes recently inaugurated in the Ontario Veterinary College have only just taken place.

Dr. C. E. Elliott, V. S., in speaking on this matter said that he thought it would be impossible to get protection for the Veterinary profession in the Province of Ontario at the present time similar to that granted some years ago to the practitioners of human medicine in this Province.

The election of officers then took place with the following results:

Honorary President—Dr. A. Smith, F. R. C. V. S.

President—Dr. Hutton.

First Vice-President—Dr. Brind.

Second Vice-President—Dr. Mole.

Secretary and Treasurer—Dr. C. Heath Sweetapple.

Directors—Drs. W. J. Wilson, C. Elliott, G. L. Robson, F. H. Hurd, W. Steele, T. H. Lloyd, R. A. Milne, G. W. Coulter.

Auditors—Drs. J. H. Reid, C. Elliott.

Representatives to the Canadian National Exhibit—

Representatives to Western Fair, London—Drs. O'Neil and W. J. Wilson.

Upon the invitation of Dr. Andrew Smith the meeting adjourned for luncheon.

Meeting opened after luncheon, the President-elect, Dr. Hutton, taking the chair. He opened the meeting with a few well chosen remarks.

Dr. Rice, V. S., of Bobcaygeon, read an interesting paper on Strangles, and considerable discussion ensued in which many members participated.

Dr. Grange, the new President of the Ontario Veterinary College, gave a short and interesting report on the changes in the college recently inaugurated.

He explained that the course was now extended to three college years of six months in each year. He also mentioned the new subjects included in the course and the proficiency of those on the teaching staff in charge of them.

Meeting adjourned.

C. HEATH SWEETAPPLE,
Secretary.

VETERINARY MEDICAL ASSOCIATION OF NEW YORK CITY.

The regular meeting was held at the New York-American Veterinary College, 141 West 54th Street, New York City, on Wednesday evening, January 6, 1909, with the President, Dr. F. C. Grenside, in the chair.

The minutes of the last meeting were read and approved. There were 33 members and visitors present.

The first paper on the program was a case report on "Embolism of the External Iliac Arteries in a Horse," by Dr. R. W. McCully. The subject, a saddle horse, was returned to the stable after short exercise very lame in the near hind leg. The animal only touching the toe of the affected leg to the ground. The lameness disappeared within a few days, but reappeared on exercise. On one occasion the lameness shifted from the left leg to the right, and was doubtless due to the floating clot being dislodged and forced into the artery of the right leg. The horse being unserviceable on account of the intermittent attacks of lameness was finally lost sight of through the action of the owner disposing of the animal by sale at one of the auction marts, where the animal went sound long enough to consummate a sale.

Dr. W. Reid Blair presented a case-report on Aneurism and Thrombosis with rupture of the left internal artery in a zebra. Dr. Blair gave the clinical symptoms observed, as well as the post-mortem findings. The Aneurism was not of parasitic origin, and the mesenteric arteries were apparently normal. Careful examination of the caecum and large intestines failed to reveal the presence of *Strongylus armatus*, the parasite so frequently found in connection with aneurisms of the mesenteric arteries.

Dr. C. J. Marshall, of Philadelphia, presented a paper on "Hereditary Unsoundness in the Horse." Dr. Marshall explained that the reason for bringing this subject forward was due to his endeavors to compile a list of diseases unquestionably transmitted through breeding. A recent stallion service law enacted in Pennsylvania made it imperative that such a list be compiled.

The Doctor's paper showed the result of a great deal of thought and research, and was most exhaustive, and his views on the subject were heartily endorsed by the members present.

A most interesting discussion followed the reading of this paper, much of this centering about the subject of *side-bones* or ossification of the lateral cartilages. There seemed to be a decided difference of opinion as to whether side-bones were of importance or not. Some of the members, whose practice dealt with the heavy draft horse, held the view that very little importance should be attached to them as they rarely gave any trouble, while others were equally positive that the ossification of the lateral cartilages seriously interfered with the proper physiological functions of the foot, and a source of much lameness, especially among city animals. The essayist took the latter view of the subject, and on a vote of those present the majority supported this view. Among those contributing to the discussion were Drs. Burns, Gill, Magee, McCully, Mangan, Cochran, Robertson and others.

President Grenside also contributed some interesting remarks on what he considered unsoundness in a breeding stallion.

The President announced that at our February meeting, Capt. A. H. Waddell, Editor of *Bit and Spur*, would address us on the subject of the Arab Horse.

Capt. Waddell was formerly a veterinarian in British army service, and is an authority on the Arab horse. An interesting address is assured.

W. REID BLAIR, Secretary.

COLORADO VETERINARY MEDICAL ASSOCIATION.

This Association convened in annual session January 2, 1909, at Denver, Colo.

The meeting was well attended and much spirit was shown by all, and after adjournment a pleasant evening was spent at the annual banquet.

The most important business was the reading of the report of the legislative committee.

The committee presented a bill to be presented to the incoming Legislature for the approval of the Association which was carefully read and indorsed by all present.

This bill, if it becomes a law, and we sincerely hope it will, will be one of the best in the United States.

The outlook before the introduction of this bill is very encouraging.

The following officers were unanimously elected for the ensuing year:

President—Robt. H. Bird, Greeley.

Vice-President—E. J. Foreman, Trinidad.

Secretary and Treasurer—M. J. Woodliffe, Denver.

Board of Directors—Drs. Geo. H. Dickey, Colorado Springs; F. W. Culver, Longmont; A. B. McCapes, Boulder, and Mark White, Denver.

Dr. Knapp, of the Fort Collins Veterinary College, gave a very interesting report on some cases of spinal meningitis or forage poisoning that he had investigated.

Drs. Lamb, Culver and Glover reported several cases of contagious Necrotic Stomatitis, and Ulcerated Stomatitis in Hogs and Sheep.

The report of the Committee on Rules and By-laws was laid on the table until the June meeting.

The following new members were elected: Drs. H. J. Waller, Monta Vista, and R. C. Swallow, Fort Morgan.

A resolution was passed requesting the Seventeenth General Assembly to appropriate \$30,000 to build and equip a new laboratory at the Fort Collins Veterinary College which is trying hard to become an A class college.

M. J. WOODLIFFE,
Secretary and Treasurer.

MAINE VETERINARY MEDICAL ASSOCIATION.

The sixteenth annual meeting of this association was held at the Cony House, Augusta, Me., Wednesday evening, January 13, 1909, with twenty-two members and two visitors present.

Dr. A. L. Murch, of Bangor, President, occupied the chair and called the meeting to order at 7.30 P. M.

The President's address was an able discourse in which he emphasized the importance of veterinary science in connection with the conservation of the public health, as well as its value considered from an economic viewpoint.

The Secretary, in his annual report, reviewed the work of his office during the past year and made some suggestions as to needed legislation.

The association re-elected its officers as follows:

President—Dr. A. L. Murch, Bangor.

Vice-President—Dr. W. S. Lord, Portland.

Secretary—Dr. A. Joly, Waterville.

Treasurer—Dr. I. L. Salley, Skowhegan.

Executive Committee—Drs. C. W. Purcell, F. L. Russell and C. L. Blakely.

Dr. F. M. Perry, of Fort Fairfield, read an excellent paper entitled "Our Advances," which was freely discussed. Dr. I. L. Salley, of Skowhegan, read an interesting paper on "Tetanus." Several matters pertaining to dairy inspection, tuberculosis and meat inspection also were discussed. Upon motion, the association adjourned to meet at Bangor in April.

A. JOLY, *Secretary*.

CHICAGO VETERINARY SOCIETY.

The Chicago Veterinary Society held its regular monthly meeting January 12, 1909, at the Sherman House, Chicago, Ill., with President Joseph Hughes in the chair, who called for order at 8:30 p. m. Twenty-one members responded to the roll call. Following the reading and approval of minutes of the previous meeting, the Committee on Local Arrangements for the A. V. M. A. meeting in Chicago this year reported progress.

The Board of Directors of the Work-Horse Parade Association, appointed by President Hughes, and also the incorporation of the Association were approved. The object, as given by the incorporators, Drs. Hughes, Jaffray and Parks, is to promote the welfare of the city work-horse. It is proposed to hold the parade during the summer of 1909.

Two candidates were elected to membership at each of the last three meetings, as follows:

D. G. Marks, M. D. C., Chicago, '07; H. F. Hisgen, M. D. C., Chicago, '03; W. L. Megley, M. D. C., Chicago, '06; J. M.

Klinck, V. S., Ontario, '95; L. J. Leffla, M. D. V., McKillip, '05; A. E. McEvers, M. D. V., McKillip, '08.

Papers were read as follows: Dr. Joseph Hughes: *Bacillus Necrophorus* in City Veterinary Practice; Dr. L. A. Merillat: *A Few Suggestions in the Treatment of Quittor*; Dr. E. L. Quitman: *Internal Treatment as a Means of Cure in Fistulous Withers*.

Adjourned 11:30 p. m. to meet the second Tuesday in February.

J. M. PARKS,
Secretary.

ANIMAL SURGERY. WILD BEASTS ARE WISE IN MEDICINE AND EASILY HEAL THEMSELVES.—Most people have seen a sick cat eat grass or an uneasy dog seek out some weed and devour it greedily to make his complaining stomach feel better. Some few may have read John Wesley's directions on the art of keeping well—which have not, however, found their way into his book of discipline for the soul—and have noticed with surprised interest his claim that many medicines in use among the common people and the physicians of his time were discovered by watching the animals that sought out these things to heal their diseases. "If they heal animals, they will also heal men," is his invincible argument. Others may have dipped deep into Indian history and folklore and learned that many of the herbs used by the American tribes, and especially the cures for rheumatism, dysentery, fever and snake bites, were learned direct from the animals by noting the rheumatic old bear grub for fern roots or bathe in the hot mud of a sulphur spring and by watching with eager eyes what plants the wild creatures ate when bitten by rattlers or wasted by the fever.

The most elemental kind of surgery is that which amputates a leg when it is broken—not always or often, but only when the wound festers from the decay or fly bite and so endangers the whole body. Probably the best illustration of this is found in the coon, who has a score of traits that place him very high among intelligent animals. When a coon's foot is shattered by a bullet he will cut it off promptly and wash the stump in running water, partly to reduce the inflammation and partly, no doubt, to make it perfectly clean. As it heals he uses his tongue on the wound freely, as a dog does, to cleanse it perhaps and by the soft massage of his tongue to reduce the swelling and allay the pain.—(*Outlook*.)

NEWS AND ITEMS.

DR. AND MRS. E. B. ACKERMAN of Brooklyn, N. Y., mourn the death of their daughter.

ONE of the most substantial and attractive buildings in San Jose, Cal., is Dr. P. H. Browning's new veterinary hospital.

DR. D. ARTHUR HUGHES is giving a course of lectures on meat and milk hygiene, at the Chicago Veterinary College this winter.

MRS. VICTORIA ELLIS, mother of Dr. Robert W. Ellis, died at her home at North Haledon, N. J., January 5, 1909, in her 82nd year.

It is reported that Dr. L. L. Conkey has under advisement the removal of his veterinary college from Grand Rapids, Mich., to Lima, Ohio.

AN item of \$400,000 for the extermination of foot-and-mouth disease, is included in the urgent deficiency appropriation bill of Congress.

THE Mayor of Newark, N. J., has re-appointed William Dimond, D. V. S., Commissioner of Assessment for public improvements for that city.

DR. T. A. SHIPLEY has been transferred from Cedar Rapids, Ia., to South St. Joseph, Mo., at which place he is now Veterinary Inspector in charge.

THE Secretary of Agriculture has lifted the general embargo upon the interstate movement of cattle from the states of Pennsylvania, New York and Maryland.

DR. H. A. ALCORN, of Adair, Iowa, in renewing his subscription, says: "I have just completed a new operating room and office and the REVIEW is needed."

MRS. A. H. BAKER's many friends will be delighted to learn that her famous big black cat, Hawthorne, was awarded the prize for the best male cat at the Chicago Show.

DR. T. F. CRAIG of Hampden, N. D., who is spending the winter in the East, was married on the 4th of January to Miss Louise K. Marzolf of Niagara Falls, N. Y.

THE annual meeting of the Interstate Association of Live Stock Sanitary Boards will be held at Chicago in September during the week following the meeting of the American Veterinary Medical Association.

DR. D. B. FITZPATRICK, a graduate of the Veterinary Department of the University of Pennsylvania, has received a temporary appointment as City Veterinarian of Philadelphia to succeed the late Dr. Walter L. Hart.

PROF. H. D. HANSON's second edition of "Practice of Equine Medicine" has been recently published by the author. A review of the work from the pen of Prof. Liautard will be published in a future edition of the REVIEW.

DR. J. F. BUTTERFIELD of South Montrose, Pa., whose Ayrshires figured conspicuously in the first prize list about a year ago, visits New York City on February 3 in attendance at the annual meeting of the Ayrshire Breeders' Association.

THE Faculty of the medical department of Tulane University of Louisiana announce the continuation of extension lectures by eminent specialists. February 17, Prof. W. H. Dalrymple, Louisiana State University, "Diseases Common to Animal and Man."

PRESIDENT ROOSEVELT'S HORSEMANSHIP.—President Roosevelt recently rode ninety-eight miles on horseback in a day to show the officers of the army, navy and marine corps that the physical endurance tests prescribed by him as a prerequisite for promotion are not cruel or unduly severe.

THE Department of Agriculture, acting under authorization of Congress, has tested Bruschettini's hog cholera vaccine and Bruschettini's hog cholera and swine plague serum and reports that the tests indicate that neither of these products are reliable agents for protecting hogs from hog cholera.

THE first meeting of the Washington State Veterinary Medical Association was held at the Butler Hotel, Seattle, January 13, 1909. Twenty-eight veterinarians were in attendance. Proceedings of the meeting will be published in a subsequent issue of the REVIEW. Hurrah! for the great north-west.

WALTER L. HART, D.V.S., graduate of the American Veterinary College, class of 1889, and for twelve years City Veterinarian of Philadelphia, died suddenly in that city, January 15, from aneurism of the aorta. He was a member of the Pennsylvania State and Keystone Veterinary Medical Associations.

FRED. CROSSLEY, M. R. C. V. S., who enjoys the distinction of being the first applicant licensed by the State Board of Veterinary Medical Examiners of New Jersey, June, 1902, soon afterwards went abroad to seek his fortune. We note with pleasure that he has been appointed Government Veterinarian, District of Perth, Western Australia.

CENSUS OF OUR HORSES.—The government has been taking a census of the horses of the country and reports that there are over 20,000,000 horses and nearly 4,000,000 mules in the United States. This is a greater number of horses by several hundred thousand than were reported previously. The "horseless age" is evidently not yet in sight.

MISS AVA POLLARD of Elizabeth, N. J., refused an offer of \$3,500 for her Persian cat which received championship honors in January at the Boston Cat Show. High prices also figured at the Boston Poultry Show. Adolph Anderson, of Bristol, Conn., sold a cochin for \$1,500 as well as several other specimens of the same breed for \$1,000 each.

It will be interesting to REVIEW readers and gratifying as well to read of the part Dr. H. D. Paxon took at a recent meeting of the Chicago Medical Society, which he attended by invitation.

This veterinarian, who for the past eleven years has been engaged in bureau work for the federal government, gave two demonstrations of pathological specimens before the society. On January 6th he exhibited specimens of cysticerci of food animals (cystic stage of tape-worms) and on the 13th frozen specimens of tuberculosis of cattle and hogs, exhibiting both common and rare specimens. Dr. Paxon was well repaid for his efforts in the interest shown by his hosts of our sister profession.

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VETERINARY MEDICAL ASSOCIATION MEETINGS.

In the accompanying table the data given is reported by many Secretaries as being of great value to their Associations, and it is to be regretted that some neglect to inform us of the dates and places of their meetings.

Secretaries are earnestly requested to see that their organizations are properly included in the following list :

Name of Organization.	Date of Next Meeting.	Place of Meeting.	Name and Address Secretary.
American V. M. Ass'n.....	Sept. 14-17, 1909.	Chicago.....	R. P. Lyman, Kansas City, Mo.
Vet. Med. Ass'n of N. J.....	July 14-15, 1909.	Atlantic City.	W. Herbert Lowe, Paterson.
Connecticut V. M. Ass'n.....	Sept., 1909.....	New Haven..	B. K. Dow, Willimantic.
New York S. V. M. Soc'y.....	Sept., 1909.....	Ithaca.....	J. F. De Vine, Goshen.
Schuylkill Valley V. M. A.....	Call of Chair...	Reading.....	W. G. Huyett, Wernersville.
Passaic Co. V. M. Ass'n.....	Call Exec. Com.	Paterson, N. J.	H. K. Berry, Paterson, N. J.
Texas V. M. Ass'n.....	Monthly.....	Boston.....	R. P. Marsteller, College Sta.
Massachusetts Vet. Ass'n.....	April.....	Bangor.....	Wm. T. White, Newtonville.
Maine Vet. Med. Ass'n.....	April.....	Ottawa.....	A. Joly, Waterville.
Central Canada V. Ass'n.....	Feb. 2-3, 1909.	Lansing.....	A. E. James, Ottawa.
Michigan State V. M. Ass'n.....	April, 1909.....	141 W. 54th St.	Judson Black, Richmond.
Alumni Ass'n, N. Y.-A. V. C.....	July 13, 1909....	Bloomington..	T. F. Krey, N. Y. City.
Illinois State V. M. Ass'n.....	.....	.....	J. H. Crawford, Harvard.
Wisconsin Soc. Vet. Grad.....	.....	.....	S. Beattie, Madison.
Illinois V. M. and Surg. A.....	.....	Louisville....	Frank Hockman, Louisville.
Vet. Ass'n of Manitoba.....	Not stated.....	Winnipeg.....	F. Torrance, Winnipeg.
North Carolina V. M. Ass'n.....	.....	Raleigh.....	Adam Fisher, Charlotte.
Ontario Vet. Ass'n.....	.....	.....	C. H. Sweetapple, Toronto.
V. M. Ass'n, New York City.....	1st Wed. ea. mo.	141 W. 54th St.	W. Reid Blair, N. Y. City.
Ohio State V. M. Ass'n.....	.....	Columbus.....	Sidney D. Myers, Wilmington
Western Penn. V. M. Ass'n.....	1st Wed. ea. mo.	Pittsburgh....	F. Weitzell, Allegheny.
Missouri Vet. Med. Ass'n.....	.....	St. Joseph....	F. F. Brown, Kansas City.
Genesee Valley V. M. Ass'n.....	.....	Rochester....	J. H. Taylor, Henrietta.
Iowa Veterinary Ass'n.....	.....	Ft. Dodge....	H. C. Simpson, Denison.
Minnesota State V. M. Ass'n.....	.....	St. Paul.....	C. A. Mack, Stillwater.
Pennsylvania State V. M. A.....	March 2-3, 1909.	Philadelphia..	F. H. Schneider, Philadelphia.
Keystone V. M. Ass'n.....	Monthly.....	Philadelphia..	S. Lockett, Glenolden.
Colorado State V. M. Ass'n.....	June, 1909.....	Denver.....	M. J. Woodliffe, Denver.
Missouri Valley V. Ass'n.....	Feb. 2-3, 1909....	Kansas City..	B. F. Kaupp, Fort Collins, Colo.
Rhode Island V. M. Ass'n.....	Jan. and June..	Providence....	T. E. Robinson, Westerly.
North Dakota V. M. Ass'n.....	Call of Sec'y....	Fargo.....	C. H. Martin, Valley City.
California State V. M. Ass'n.....	March 10, 1909..	San Francisco.	J. J. Hogarty, Oakland.
Southern Auxiliary of California	.....	.....	.....
State V. M. Ass'n.....	Jan. Apl. Jy. Oct.	Los Angeles..	J. A. Edmonds, Los Angeles.
South Dakota V. M. A.....	2d Tues. in Jy. '09	Sioux Falls..	J. A. Graham, Sioux Falls.
Nebraska V. M. Ass'n.....	.....	Grand Island.	H. Jensen, Weeping Water.
Kansas State V. M. Ass'n.....	.....	Topeka.....	B. Rogers, Manhattan.
Ass'n Médéciale Veterinaire Fran-	1st and 3d Thur.	Lec. Room, La-	.....
çaise "Laval".....	of each month	val Un'y, Mon.	J. P. A. Houde, Montreal.
Province of Quebec V. M. A.....	.....	Mon. and Que.	Gustave Boyer, Rigand, P. Q.
Kentucky V. M. Ass'n.....	.....	Not decided..	D. A. Piatt, Lexington.
Washington State Col. V. M. A..	Monthly.....	Pullman, Wa.	Wm. D. Mason, Pullman.
Indiana Veterinary Association...	.....	Indianapolis..	E. M. Bronson, Indianapolis
Louisiana State V. M. Ass'n.....	.....	.....	E. P. Flower, Baton Rouge.
Twin City V. M. Ass'n.....	2d Thu. ea. mo.	St. P.-Minneap	S. H. Ward, St. Paul, Minn.
Hamilton Co. (Ohio) V. A.....	.....	Louis P. Cook, Cincinnati.	.....
Mississippi State V. M. Ass'n.....	.....	.....	J. C. Robert, Agricultural Col.
Georgia State V. M. A.....	Nov. 16-17, 1909.	Athens.....	P. F. Bahnsen, Americus.
Soc. Vet. Alumni Univ. Penn.....	June, 1909.....	Philadelphia..	B. T. Woodward, Wash'n, D. C.
Virginia State V. M. Ass'n.....	July 9, 1909....	Hampton.....	W. G. Chrisman, Charlo'sv'le.
Oklahoma V. M. Ass'n.....	.....	.....	W. H. Martin, El Reno.
Veterinary Practitioners' Club...	Monthly.....	Jersey City...	A. F. Mount, Jersey City.
Vet. Ass'n Dist. of Columbia.....	3d Wed. ea. mo..	514—9th St.,	.....
.....	.....	N. W.....	M. Page Smith, Wash., D. C.
B. A. I. Vet. In. A., Chicago.....	2d Fri. ea. mo...	Chicago.....	J. Madsen, Chicago, Ill.
Arkansas Veterinary Society.....	.....	.....	B. H. Merchant, Little Rock.
York Co. (Pa.) V. M. A.....	1st Tues. in Mar.	York, Pa.....	E. S. Bausticker, York, Pa.
Philippine V. M. A.....	.....	.....	R. H. McMullen, Manila.
Montana State V. M. A.....	.....	Helena.....	.....
Veterinary Ass'n of Alberta....	.....	.....	C. H. H. Sweetapple, For.
Chicago Veterinary Society.....	2d Tues. ea. mo.	Chicago.....	Saskatchewan, Alta., Can.
Maryland State Vet. Society.....	.....	Baltimore.....	J. M. Parks, Chicago.
St. Louis Soc. of Vet. Inspectors.	1st Wed. fol. the	H. H. Counselman, Sec'y.
.....	2d Sun. ea. mo.	St. Louis.....	Wm. T. Conway, St. Louis, Mo.

PUBLISHERS' DEPARTMENT.

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Rejected manuscripts will not be returned unless postage is forwarded.

Subscribers are earnestly requested to notify the Business Manager immediately upon changing their address. Make all checks or P. O. orders payable to American Veterinary Review.

SHARP & SMITH have some very attractive offers illustrated and described on page 3 (adv. dept.). They always take pleasure in giving fuller details to REVIEW readers who address them inquiries.

MULTUM IN PARVO describes the advertisement of the NITROX CHEMICAL COMPANY on the inside of the front cover page

THE weather and consequent condition of streets and roads generally tells upon the vital forces of horses, as revealed by their physical condition, which is run down. ATLAS HORSE FEED is an ideal, nutritious, economical feed, that every horse likes and every horse owner should test to his own satisfaction before passing it over as "another one of those patent feeds." This food is composed simply of pure selected grain and good molasses. Full information can be obtained by writing THE MEADER ATLAS Co., whose address will be found on page 3 (adv. dept.).

THE extra wear and tear on muscles and tendons during the winter months is productive of tendonitis and other similar conditions. Never mind if your client cannot spare the horse to be laid up for treatment, use IODINE-PETROGEN, which does not necessitate laying him up. Take plenty of time using only a small quantity and "kneading" well into the affected parts. JOHN WYETH & BROTHER, INC., whose advertisement appears on page 22 (adv. dept.) will give you full information for the asking.

GEORGE WHITE'S BOOK comes out this month, and everyone who knows George White (and who does not know him?) will want his book. For further information see advertisement opposite.

NEXT month horses will begin to prepare to shed their winter coats and alteratives and tonics will be indicated. No better compound for the purpose can be obtained than that of the VEGETABLE AND MINERAL TONIC FOR HORSES advertised on page 31 (adv. dept.). Write Mr. Woodnutt about it.

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